



Implementation of the Master Plan for Statewide Professional Staff Development for 2011-2012

An Evaluation Study



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2012-2013**

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Executive Summary

West Virginia Code §18-2-23a¹ requires the West Virginia Board of Education (WVBE) to establish annual professional development goals for public schools; to coordinate professional development programs; and to guide program development, approval and evaluation. The legislative intent of this section of state law is

(1) To provide for the coordination of professional development programs by the State Board;

(2) To promote high-quality instructional delivery and management practices for a thorough and efficient system of schools; and

(3) To ensure that the expertise and experience of state institutions of higher education with teacher preparation programs are included in developing and implementing professional development programs.

Toward these ends, the WVBE (2011) adopted the following goals for professional development for the 2011–2012 school year:

As a result of professional development, participants will . . .

1. deliver standards-based instruction in classrooms to ultimately improve student learning. Such instruction will exhibit an understanding of the Common Core State Standards for English/Language Arts and Mathematics including how the new standards align to the West Virginia 21st Century Content Standards and Objectives.
2. apply their knowledge of the Common Core State Standards into professional practice with specific attention to: (1) addressing writing and text complexity, (2) designing school-wide efforts to improve literacy and numeracy, and (3) ensuring technology and science are integrated into improvement efforts.
3. effectively apply the West Virginia Professional Teaching Standards to ensure that all students in West Virginia are served by high quality educators.
4. exhibit increased leadership and collaboration to facilitate school improvement. (pp. 4-5)

West Virginia Code §18-2-23a further states that, each year, once the annual goals are set, the state board is required to submit the goals to the major state agencies responsible for providing professional development to teachers, administrators, and other professional education staff statewide, including the West Virginia Department of Education (WVDE), the West Virginia Center for Professional Development (CPD), the regional education service agencies (RESAs), and the Higher Education Policy Commission. These agencies then collaborate in the development of an annual master plan for professional development (PD Master Plan) aligned with the goals. Lastly, the statute requires evaluation of the effectiveness of the professional staff development programs. The WVBE has charged the WVDE Office of Research to meet this requirement.

¹ See West Virginia Code §18-2-23a, Annual professional staff development goals established by State Board; coordination of professional development programs; program development, approval and evaluation. Available at <http://www.legis.state.wv.us/wvcode/ChapterEntire.cfm?chap=18&art=2§ion=23A#02>.

This evaluation study provides summative information about the implementation of the Master Plan for Professional Staff Development for 2011-2012 (PD Master Plan), which was approved by the West Virginia Board of Education in May 2011. The study addresses the following research questions:

- RQ1. How comprehensively was the PD Master Plan implemented?
- RQ2. What were participants' views about the sessions' adherence to research-based practices for high quality professional development?
- RQ3. What were participants' views about the sessions' success in addressing the WVBE Goals for Professional Development?
- RQ4. What were participants' views about the impact of the professional development on their knowledge, behaviors and skills, and attitudes and beliefs?

The study also raised questions about the formation of the plan itself, and how that process may be affecting some of the findings in response to the research questions listed above.

Methods

We examined the performance of professional development providers included in the PD Master Plan, including the Marshall University June Harless Center, all eight RESAs, CPD, and eight WVDE offices (Assessment and Accountability, Healthy Schools, Institutional Education Programs, Instruction, School Improvement, Special Programs, Title I, and Title II, III, and System Support). These agencies—or *PD providers*—delivered professional development from June 1, 2011 through May 31, 2012 in alignment with the WVBE-approved PD Master Plan.²

There were two main data sources used in this study. The first was 572 reports submitted by the providers, using an online reporting system. Providers reported which sessions were held, attendance, the county where the session was held, duration of the session and timespan, and the e-mail addresses of all attendees. The second data source was an online survey of 6,312 unduplicated, randomly selected participants, conducted in two waves—one in late fall and one in the spring—resulting in 4,281 usable responses, which is a 68% response rate. The survey collected participant perceptions about the quality, Board goal relevance, and effectiveness of a single professional development session they attended.

Results

We set out to address the following aspects of the implementation of the 2011-2012 Master Plan for Professional Staff Development (PD Master Plan): (a) implementation of planned sessions; (b) participant perceptions about the sessions' adherence to research-based practices for high quality professional development; (c) participant perceptions about the sessions' helpfulness with regard to the specific goals of the PD Master Plan; and (d) participants perceived (self-reported) outcomes resulting from their involvement in profession-

² Many of these providers delivered additional technical assistance and professional development beyond the scope of the PD Master Plan. However, this evaluation examines only the professional development that was approved and included in the 2011-2012 PD Master Plan.

al development associated with the PD Master Plan. After the discussion of findings for each of these topics, we provide a few observations about the formation of the plan, itself.

Implementation of Planned Sessions

Overall, implementation of planned sessions was down slightly from the level seen in 2010-2011—77.5% compared with 80.0% last year. The most prevalent reasons included a lack of requests/registrations and scheduling issues. Five sessions were cancelled to avoid a duplication of effort.

Attendance was down nearly 42% from last year, dropping from about 37,000 in 2010-2011 to under 22,000 in 2011-2012. Most of this drop in attendance—in fact, 83% of it—was attributable to the lower attendance numbers reported by the RESAs, which declined from 17,508 in 2010-2011 to 4,657 participants in 2011-2012. CPD and IHEs (Marshall University only in 2011-2012) also saw lower attendance, while WVDE providers' attendance was slightly up (Figure A).

Top providers in terms of attendance were all from WVDE, including the Office of Instruction (3,995), Office of Special Programs (3,958), and the Office of Title I (2,700).

The WVBE's Goals for Professional Development were all well covered, with a minimum of about 6,900 participants attending sessions focused on each of the goals.

Face-to-face sessions far outflanked other meeting formats at 90%, followed by sessions that blended formats at 9%.

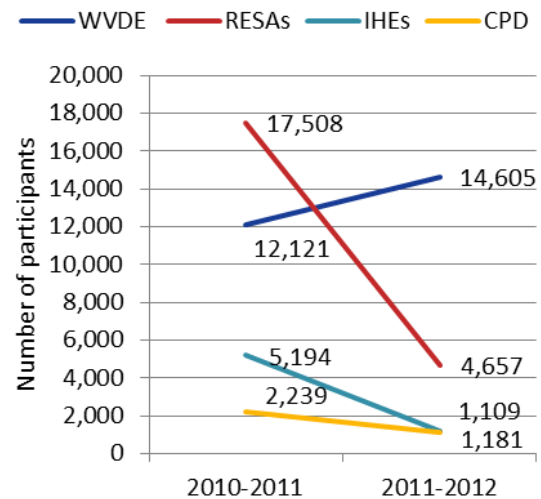
CPD had the highest average duration for its professional development sessions—45 hours, with a mean time span of 50 days. Six providers had average durations in hours for their professional development that indicated they typically offer sustained professional development (i.e., 14 hours or more), which research shows is the minimum required to effect improvement in student achievement (Yoon, et al., 2007).

Sessions offered in a blended format tended to have the longest duration (average 17.5 hours).

There were five county locales where no professional development offered through the PD Master Plan took place (Barbour, Monroe, Pleasants, Ritchie, and Taylor), although educators from these counties did attend professional development offered in other locales.

This study estimates that the average travel time to professional development provided by the 18 offices and organizations covered in this report was about 61 minutes, or

Figure A. Attendance Changes from 2010-2011 to 2011-2012, by Provider Group

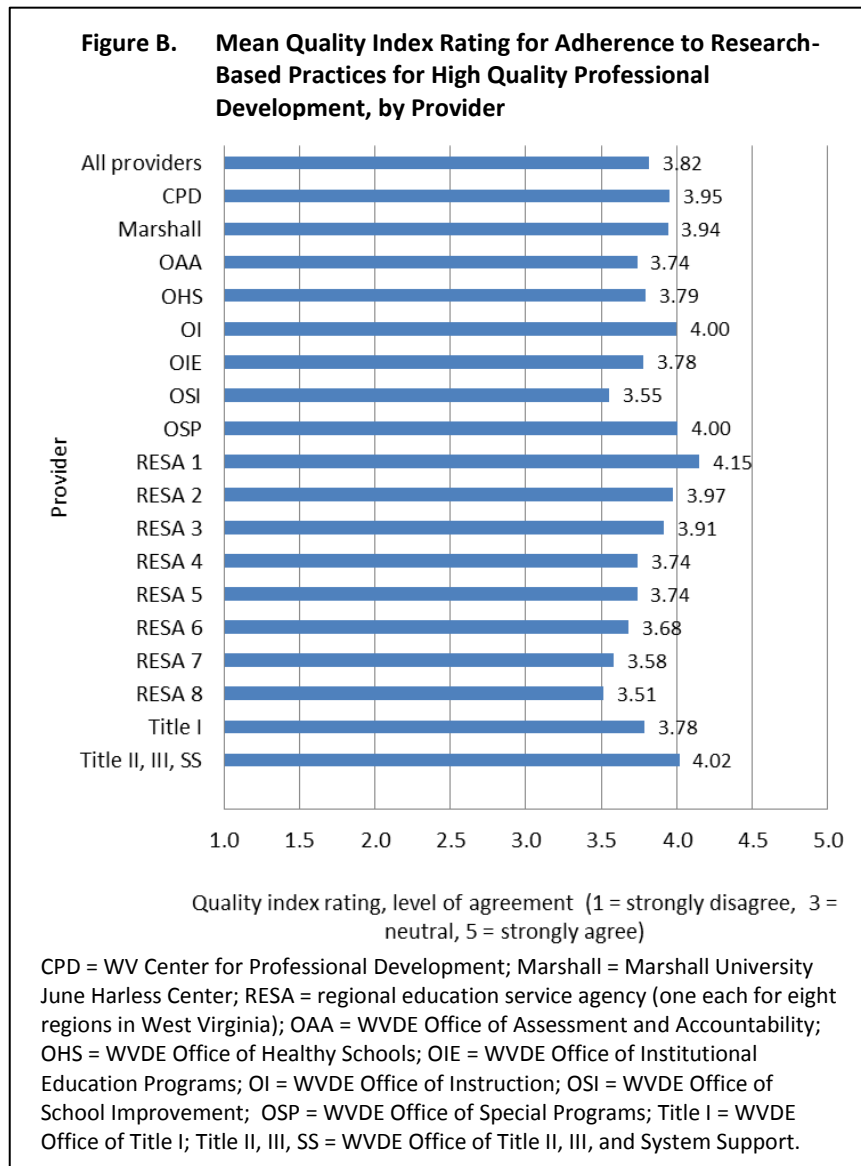


slightly over an hour. When this estimate is projected to the more than 20,000 attendees in sessions held during the 12-month period from June 2011 through May 2012, we estimate that more than 20,000 staff hours were spent just travelling. Further, the burden of travel is not equally shared. We estimate that educators in some counties travel well over 60 minutes each way to attend professional development; educators in Hampshire, Hardy, Mineral, and Monroe counties travelled at least half again the average, and twice as much as their counterparts in Cabell, Calhoun, Kanawha, and Monongalia. No doubt some of this travel is unavoidable, but perhaps not all of it. Reducing travel time by using online or other formats could allow educators to redirect time spent travelling, allowing more time for other activities that would benefit students.

Use of Research-Based Practices

Overall, the strongest ratings in terms of the use of research-based practices were given to the relevance and specificity (content-focus) of the professional development. The weakest ratings were for the two follow-up items—that is, follow-up discussion and collaboration, and related follow-up professional development. These two dimensions may warrant attention, and may well receive it with the focus on providing more sustained professional development in the current (2012-2013) PD Master Plan.

Results were similar when we disaggregated by professional role and by programmatic level, that is, there was very little variation among the role groups and programmatic levels with regard to the overall quality index rating, which ranged from 3.7 to 3.9 on a 5-point scale (1 [strongly disagree], 3 [neutral], and 5 [strongly agree])—indicating a



moderate level of agreement that the professional development they attended adhered to research-based practices for high quality professional development.

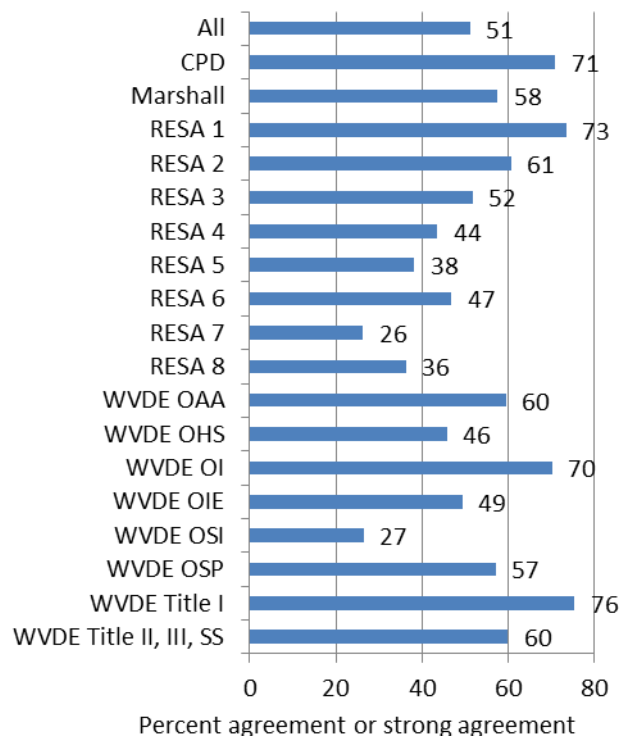
There was slightly more variation (3.7 to 4.0) when we disaggregated by content area, with physical education and foreign language teachers expressing the highest level of agreement.

The greatest degree of variation in the mean quality index rating was among providers, although all 18 providers had ratings that fell into the general agreement range—that is, respondents tended to agree with statements that the professional development they attended adhered to research-based practices and was beneficial overall. However, there were six providers that scored at 4.0 or above, including CPD; RESAs 1 and 2; and WVDE’s Office of Instruction, Office of Special Programs, and Office of Title II, III, and System Support. The lowest scoring providers were RESA 7 (3.58), RESA 8 (3.51), and the WVDE Office of School Improvement (3.55) (Figure B).

Perceived Effectiveness in Addressing the Board’s Goals

For this measure, we selected respondents who attended sessions that providers had indicated were aligned with particular Board goals for professional development, and checked to what extent these respondents agreed that the professional development had been helpful in meeting that goal. With few exceptions—that is, CPD, RESA 1, and the Office of Title I—there is much room for improvement when it comes to respondents’ perceptions about alignment of the professional development they received with the goal it was meant to address (Figure C). It is unknown why some providers had such consistently low alignment scores, with only about a quarter to just over a third of individual respondents agreeing that the session they attended addressed the goal it was intended to support. In the case of the RESAs, some of the lack of alignment may be due to the approach they used in submitting nonspecific session titles—each of which they designated as aligning with several goals—and then reporting multiple sessions under each, some of which may or may not have aligned well with the goals. However, RESA 1 did not seem to fall into that pattern, which could indicate that RESA 1 truly focused very sharply on the Board goals—especially goals related to English/language arts, writing, and literacy and numeracy skills, as well as on ap-

Figure C. Percentage of Overall Agreement or Strong Agreement that PD was Helpful in Meeting Board Goals, by Provider

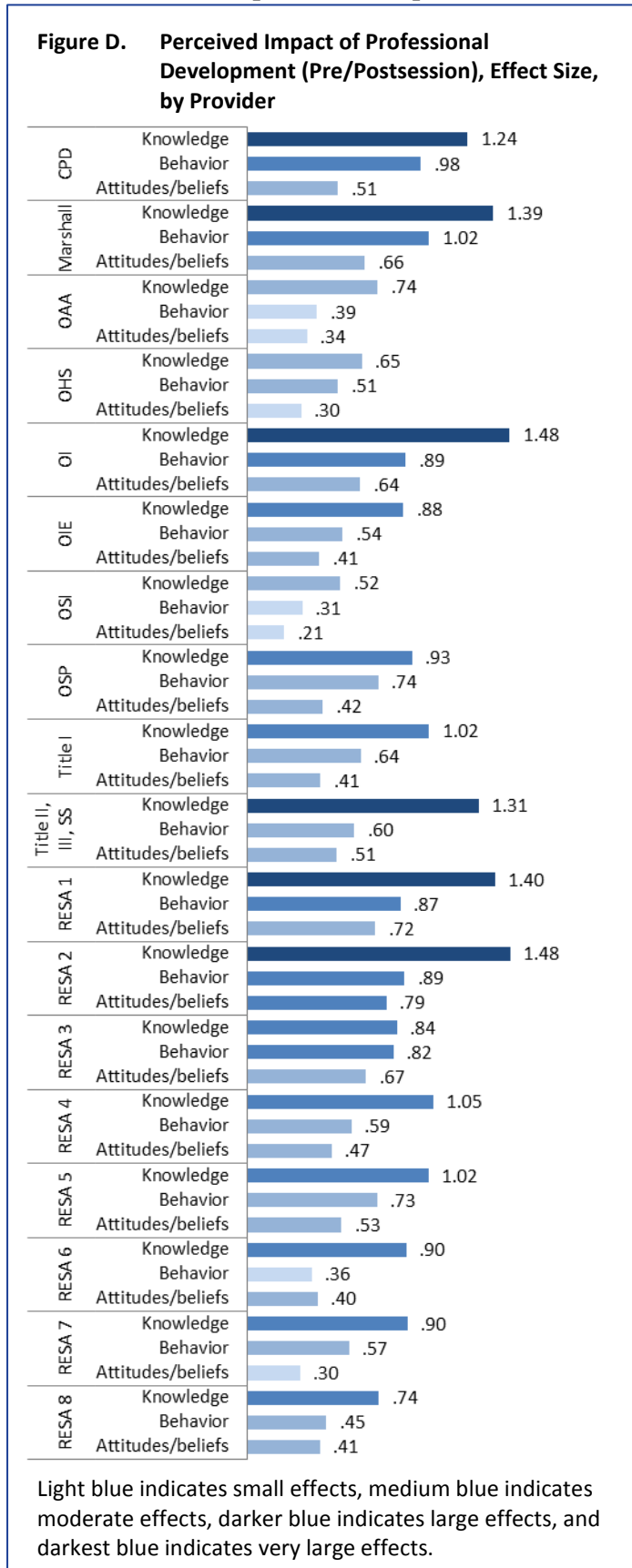


plying WV Professional Teaching Standards, and leadership skills to improve schools. Another possible explanation is that RESA 1 reported only their goal-aligned professional development through the PD Master Plan reporting system and refrained from reporting other nonaligned sessions.

With only 51.2% of respondents, overall, in agreement that the sessions they attended aligned well with the Board goals they were intended to support, goal alignment is clearly an area that most providers could focus on improving. The 2012-2013 PD Master Plan evaluation may see some improvement in this measure, as providers were restricted to indicating only one primary goal for each of the sessions they included in the PD Master Plan, and they were required to submit specific titles indicating specific content.

Perceived Impacts on Knowledge, Behavior, and Attitudes/Beliefs

In three paired self-reported pre-/posttest items, participants indicated greater knowledge after having participated in professional development, reported engaging in more behavior related to the PD they attended, and holding attitudes and beliefs slightly more aligned to those supported by the professional development. T tests returned statistically significant differences for all three areas ($p < .000$). In nearly all disaggregations, professional development was perceived by participants to have had its greatest impact on their knowledge and least impact on their attitudes and beliefs. This pattern held true whether we disaggregated by programmatic level, professional role, content area, or



provider. Overall, perceived impacts were

- Highest for early childhood/elementary participants and lowest for respondents who indicated they were in the *other* programmatic group;
- Highest for regular classroom teachers and lowest for respondents who indicated they were in the *other* role group;
- Highest for educators involved in all subject areas (i.e., elementary education), followed by foreign language teachers; and lowest for those indicating they were not teaching in a content area (N/A) and those teaching English as a second language³; and
- Highest for respondents who attended professional development offered by RESA 1, RESA 2, and WVDE Office of Instruction; and lowest for professional development offered by RESA 8, and WVDE's Office of Assessment and Accountability, Office of Healthy Schools, and Office of School Improvement (Figure D).

Formation of the 2011-2012 PD Master Plan

Participation of institutions of higher education

Language in West Virginia Code (§18-2-23a), which defines the Board of Education's role in coordinating professional development, calls for the Board "To ensure that the expertise and experience of state institutions of higher education with teacher preparation programs are included in developing and implementing professional development programs." The reduction in participation by IHEs from two institutions (Fairmont State University and Marshall University) in 2010-2011 to only one (Marshall University) in 2011-2012 is notable, and indicates an area that needs attention if the statute is to be fully implemented. Ten public IHEs in West Virginia with teacher preparation programs did not participate in the 2011-2012 plan.

Participation of WV Department of Education offices

The lack of participation by several offices within the West Virginia Department of Education, including two that participated in 2010-2011, was also notable for 2011-2012. The Board and the WV Center for Professional Development (which is responsible for putting together the plan) did address this issue during the formation of the 2012-2013 PD Master Plan, and as a result, the new plan includes all offices that provide professional development to teachers, administrators, and other school and district staff.

Participation of RESAs

For this PD Master Plan and the one preceding it, the RESAs submitted a common set of nonspecific session titles, which served as categories—or placeholders—for the professional development they would offer throughout the following year. This approach has posed a challenge for data collection from participants, and with one notable exception (RESA 1) has resulted in what may be a skewed picture of a lack of alignment of RESA offerings with the Board's Goals for Professional Development. RESA representatives at the December

³ The sample was very small for this group and this was the only group for which the *t* test returned insignificant results, so this result should be used with caution.

2011 WVBE PD Committee meeting and the February 2012 State Professional Development Advisory Committee Meeting indicated that district strategic plans form the basis of the RESAs' annual strategic plans for professional development, which are required by WVBE Policy 3233 and are due on October 1 each fall. To further investigate this issue, we reviewed the professional development portions of all eight RESA strategic plans submitted on October 1, 2011, and found most of them to be quite detailed in the area of professional development, listing specific titles for workshops, seminar series, online courses, and so forth. In some cases, there were rich descriptions of objectives and action plans from which professional development session titles could readily be developed. It seems that a large part of the challenge for RESAs in forming and evaluating the PD Master Plan has to do with timing. Their planning cycle does not align with the Board's planning cycle—both of which are driven by state code. Yet, there may be a solution in state code. The statute that outlines the process for developing the PD Master Plan includes the following language (§18-2-23a., see Appendix A):

The Master Plan shall serve as a guide for the delivery of coordinated professional staff development programs by the State Department of Education, the Center for Professional Development, the state institutions of higher education and the regional educational service agencies beginning on the first day of June in the year in which the Master Plan was approved through the thirtieth day of May in the following year. *This section does not prohibit changes in the Master Plan, subject to State Board approval, to address staff development needs identified after the Master Plan was approved.* (Emphasis added.)

This language seems to leave open the possibility of amending the PD Master Plan to include more detailed plans for professional development that could be submitted by the RESAs after they have had the opportunity to consult the strategic plans generated by the districts they serve.

Participation of the West Virginia Center for Professional Development

The West Virginia Center for Professional Development (CPD) is at the center of the process for developing the PD Master Plan. It convenes meetings and works with the other providers to compile the plan and submits its own slate of planned professional development sessions. In preparation for the formation of the 2012-2013 PD Master Plan, CPD obtained a list of planned professional development compiled from school strategic plans, for the Board PD Committee to use in its process of setting new goals for professional development. CPD worked closely with the Higher Education Policy Commission, and as a result there were representatives from Concord University, Marshall University, West Virginia State University, and West Virginia University at the PD Advisory Committee Meeting in February 2012. CPD also worked with the State Superintendent to convey to offices in the WVDE that all professional development they plan to provide must be part of the PD Master Plan, and prepared an informational frequently-asked-questions document about the Master Plan, which explained the process and included the Board's Goals (both strategic and professional development). Lastly, they posted an online tool for providers to use in submitting their session titles. This additional work resulted in an increase in the number of WVDE offices included in the plan from nine in 2011-2012 to 15 in 2012-2013. It did not result, however, in

greater participation of IHEs. Only Marshall University continues to participate in the PD Master Plan.

Discussion of the process for developing the PD Master Plan

While the challenges facing RESAs were specifically described, other agencies may also face some of the same planning schedule issues, and may be more able to provide a comprehensive and realistic plan for their professional development if they could add or subtract sessions early in the fall. If scheduling is determined to be at issue, it appears that there is a potential solution to the problem—that is, to reopen the PD Master Plan for a revised list of PD session titles with an early October deadline. This date is only 4 months into the PD Master Plan reporting year, so it would allow providers the opportunity to update plans for the remaining 8 months.

While the ability to update plans would be useful, it only affects logistical aspects of the planning process. Other, more programmatic and substantive issues remain about how to use the PD Master Plan as a stronger mechanism for coordinating professional development. The extent to which this plan helps drive the agenda for professional development is unknown, although our review of RESA strategic plans in the context of the Boards' Goals for Professional Development provides some evidence that there may not be a strong connection between what some providers deliver and what is envisioned by the Board through its PD Master Plan.

Yet, the Board's leadership in coordinating professional development was strongly called for in the recently released, *Education Efficiency Audit of West Virginia's Primary and Secondary Education System*, by Public Works (2012), who asserted that "States cannot improve the quality of professional development with a patchwork or series of improvement strategies. Rather, improvements must be strategic, systemic, and use research to determine the way professional development is selected, delivered, evaluated, and funded" (p. 62). The authors endorsed the findings of the November 2006 RESA Task Force, which also called for more focused leadership with the following claim:

... [T]he governance structure of the West Virginia professional development system is too diffuse to assume that the entities responsible for professional development are working in a synchronized way to meet state goals for professional development. The professional development system needs to be driven by an agreed upon professional development definition, vision, and standards (Public Works, 2012, p. 55).

Later in the report, they made the following recommendation:

Refine and use the Master Plan for Statewide Professional Staff Development as a true strategic planning tool. In interviews conducted for this review, educators commented that while the Master Plan articulates the state's PD goals, it does not lay out a larger strategy for how those goals will be achieved. Some interviewees described the Plan as merely a "laundry list of state-approved PD courses." At its inception, the Master Plan was intended to serve as a tool to identify redundancies in PD offerings. However, so far, there are no real examples of eliminating duplications.

During the course of the 2011-2012 year—before the *Education Efficiency Audit* was released—the Board began moving in the direction articulated in the audit. It adopted stand-

ards for professional development that are based on the Learning Forward (formerly the National Staff Development Council) standards. In December 2011, it developed a definition of professional development and a new set of goals. The new goals are strongly aligned to the Board's Strategic Goals and the Superintendent's priorities, forming a cohesive and coherent vision of the role for professional development. The Board's PD Committee also began exploring options for creating an online catalog of professional development offerings and centralized registration system. It soon realized that creating such a system would require planning, resources, and time to do well. Yet developing such a system could help eliminate duplications, provide needed oversight, and expedite the PD evaluation process.

Clearly, there is much to consider as the Board looks ahead to future PD Master Plans. As a next step toward the goal of actively coordinating professional development as envisioned in West Virginia Code (§18-2-23a), and as called for in the Education Audit, the Board may need to know more about this very complex terrain, including a more comprehensive view of the professional development that is offered by the following groups:

- IHEs—What sorts of partnerships exist between IHEs and RESAs, districts, and schools, and how well is what they are doing aligned with the Superintendent's priorities and the Board's strategic and professional development goals?
- RESAs and WVDE—What is the complete picture of professional development that RESAs and WVDE offices provide during the course of a year, and how do they decide upon those particular offerings; that is, are there criteria they use for prioritizing what they do in response to requests from the field, or do they respond based mainly on an expressed need by a school or district? How closely aligned is their decision making about the slate of professional development they will offer with the Superintendent's priorities and the Board's strategic and professional development goals?
- Districts and school—What professional development do they provide? How do they prioritize their offerings? Who does the actual training/facilitation—vendors, IHEs, in-house staff, others?

Overall, a more comprehensive study of professional development could build on the work done by the authors of the *Education Efficiency Audit*, but also investigate what takes place at the school and district levels. We have heard from the RESAs and others that a large portion of the professional development they offer falls outside of the sessions listed in the plan due to shifting priorities, and needs as they arise. The Board may wish to examine this phenomenon, and consider whether professional development that providers offer outside of the PD Master Plan aligns with the Board's strategic goals and priorities, and if not, determine if the Board should enlarge its vision or if such professional development efforts should be abandoned or refocused.

Limitations of the Study

The participant survey conducted in November-December 2011 and April-May 2012 (with supplemental polling in August for CPD participants) asked respondents to recall PD sessions they had participated in at some point in the past. In some cases, the sessions had taken place up to five months prior to the survey. For this reason, there is a possibility of temporal bias in survey participants' responses.

Furthermore, the use of a retrospective pretest/posttest methodology to assess changes in knowledge, behavior and skills, and attitudes and beliefs poses some concerns. We used this methodology primarily because some researchers have argued that a phenomenon called *response shift bias* can occur when conducting traditional pretest/posttest designs. Response-shift bias “occurs when a participant uses a different internal understanding of the construct being measured to complete the pretest and posttest” (Moore & Tananis, 2009, p. 190). Consider this in context of professional development. Some respondents begin their involvement in professional development with a misconception that they are already well-versed in the content to be covered. When given a pretest, they rate their own knowledge, behavior and skills, and attitudes and beliefs very positively. However, over the course of the professional development, as they develop a deeper understanding of the content being covered, they realize they did not know as much as they originally thought. As such, when presented with the posttest, their frame of reference has shifted and they could potentially rate their knowledge, behavior and skills, and attitudes and beliefs lower than they did on the pretest. This can lead to problems in analyzing the impact of the professional development. For this reason, some researchers advocate for using retrospective pretest/posttest designs as we did in this study.

Despite this strength of the retrospective pretest/posttest design, a recent research study conducted by Nimon, Zigarmi, and Allen (2011) found that using traditional pretest/posttest designs leads to less biased estimates of program effectiveness. The authors present a compelling case that presenting both pre- and posttest items simultaneously on a single survey is among the most biased design options available to researchers and can significantly inflate effect size estimates. The authors recommend traditional pretest/posttest designs when possible and advocate for the implementation of a separate retrospective pretest to allow researchers to determine the presence of any response-shift bias. This design option, despite its strength, was not feasible in this study due to a mismatch between the scale of professional development offerings in the state and available evaluation staffing resources. Therefore, we recommend cautious interpretation of our own estimates of effect size, as they may be somewhat inflated.

While a 68.1% response rate (or 74.8% for the sample adjusted for attrition) is high for this type of survey, there remained a portion of the sample from whom we did not hear. We can account for approximately 7% of the nonrespondents as individuals whose e-mail addresses were broken or obsolete, or who contacted us to report that they had not attended the session in our survey participation request. But this leaves approximately 25% of the total sample whose perceptions about the professional development are unknown.

Our literature review did not reveal any appropriately tested and validated measures of professional development quality and/or impact that met our specific needs. Therefore, we developed our own measures for this study. Due to time and resource constraints, these measures were not field tested prior to operational use. Consequently, there is not adequate validity evidence that the constructs we sought to measure are fully addressed by our survey items. The measures used possess only face validity.

Issues for Consideration

The following considerations are based on findings from this study and are offered for the purpose of improving the overall process of formulating, implementing, and evaluating the West Virginia Master Plan for Professional Staff Development (PD Master Plan). Related to development of future PD Master Plans, we offer the following suggestions:

- With the exception of Marshall University's June Harless Center, other institutions of higher education (IHEs) with teacher preparation programs were absent from the 2011-2012 PD Master Plan, despite the WV Center for Professional Development's (CPD) efforts to include them. *The Board may wish to consider if there are other strategies that could be employed to bring this group into the Master Plan.*
- Similar to the approach they used in the 2010-2011 PD Master Plan, RESAs listed only seven session titles, and then reported multiple professional development sessions they provided under one of those seven titles during the course of the year. Staff indicate they have taken this approach because they cannot predict what professional development districts will request before the districts put together their strategic plans. *The Board may wish to consider reopening the PD Master Plan in early October, to allow the RESAs and other providers to revise their lists of planned professional development sessions based on strategic needs of their target audiences.*

Related to implementation of future PD Master Plans, we suggest the following:

- There were some newcomers to the PD Master Plan this year, which may explain why there was a slight drop in the fulfillment of sessions planned, from 80% last year to 77.5% in 2011-2012. A review of the reasons for not providing planned sessions revealed that the most prevalent reason for cancelling sessions was lack of interest (not enough people registered or districts did not request it). Five sessions were cancelled to avoid a duplication of effort and another five due to changing priorities. *Raising the rate of fulfillment would be a good goal, which could be enhanced by allowing providers to update the plan each October (as called for above).*
- Again this year, survey respondents indicated that providers have done well delivering professional development that is research-based in most of the seven dimensions measured. *Several of the providers could improve related to supporting extension of the professional development to the workplace via discussions and collaboration, and by providing follow-up sessions.*
- As discussed extensively in the previous section, about half of all respondents did not agree that the professional development they attended was helpful in meeting the Board goal that providers indicated the session was meant to support. *Providers should consider re-examining the alignment of the professional development they have in the current plan (and future plans) to be sure that they are providing experiences that truly are focused on the Board goals.*
- Travel time to professional development covered in the 2011-2012 PD Master Plan was estimated to total more than 20,000 hours for the more than 20,000 attendees. *While some of this travel cannot be avoided, providers should consider looking for*

ways to reduce it, especially by using formats other than face-to-face for their sessions, which is the format currently used for 90% of all sessions.

- Related to evaluation of future PD Master Plans, we suggest the following:
- As noted in the *Education Efficiency Audit*, the evaluation of the PD Master Plan covers only professional development delivered by providers included in the plan, and only the subset of their offerings that were aligned with the Board’s goals for professional development and submitted as part of the plan. The drop off in attendance by 42% this year may be an indication that even among this group, less of what providers offered fell under the auspices of the PD Master Plan. Left out of the PD Master Plan, and this study, is likely a large portion of the professional development that takes place in West Virginia—including professional development delivered by districts and schools. We know little about this professional development, including whether it is aligned with goals and priorities of the Board and Superintendent. *The Board may wish to consider studying more comprehensively the professional development that is offered by the four main groups of state and regional providers (CPD, IHEs, RESAs, and WVDE), and by districts and—to the extent possible—by schools. Conducting a 1-year study could provide essential background information as the Board strives to fulfill the leadership and coordinating role laid out for it in West Virginia Code (§18-2-23a) and urged upon it by the Education Efficiency Audit (Public Works, 2012). The Board could require providers to report on all professional development they offer, and in so doing, indicate for each session they conduct and report, to which goal the PD is aligned—or provide a rationale for why the professional development was offered. Part of the study could include an analysis of the rationales provided, which could inform the Board as it enters a new cycle of goal formation and planning.*

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Introduction

West Virginia Code §18-2-23a⁴ requires the West Virginia Board of Education (WVBE) to establish annual professional development goals for public schools; to coordinate professional development programs; and to guide program development, approval and evaluation. The legislative intent of this section of state law is

- (1) To provide for the coordination of professional development programs by the State Board;
- (2) To promote high-quality instructional delivery and management practices for a thorough and efficient system of schools; and
- (3) To ensure that the expertise and experience of state institutions of higher education with teacher preparation programs are included in developing and implementing professional development programs.

Toward these ends, the WVBE (2011) adopted the following goals for professional development for the 2011–2012 school year:

As a result of professional development, participants will . . .

5. deliver standards-based instruction in classrooms to ultimately improve student learning. Such instruction will exhibit an understanding of the Common Core State Standards for English/Language Arts and Mathematics including how the new standards align to the West Virginia 21st Century Content Standards and Objectives.
6. apply their knowledge of the Common Core State Standards into professional practice with specific attention to: (1) addressing writing and text complexity, (2) designing school-wide efforts to improve literacy and numeracy, and (3) ensuring technology and science are integrated into improvement efforts.
7. effectively apply the West Virginia Professional Teaching Standards to ensure that all students in West Virginia are served by high quality educators.
8. exhibit increased leadership and collaboration to facilitate school improvement.
(pp. 4-5)

West Virginia Code §18-2-23a further states that, each year, once the annual goals are set, the state board is required to submit the goals to the major state agencies responsible for providing professional development to teachers, administrators, and other professional education staff statewide, including the West Virginia Department of Education (WVDE), the West Virginia Center for Professional Development (CPD), the regional education service agencies (RESAs), and the Higher Education Policy Commission (HEPC). These agencies then collaborate in the development of an annual master plan for professional development aligned with the goals. The law states,

⁴ See West Virginia Code §18-2-23a, Annual professional staff development goals established by State Board; coordination of professional development programs; program development, approval and evaluation. Available at <http://www.legis.state.wv.us/wvcode/ChapterEntire.cfm?chap=18&art=2§ion=23A#02>.

The Master Plan shall serve as a guide for the delivery of coordinated professional staff development programs by the State Department of Education, the Center for Professional Development, the state institutions of higher education and the regional educational service agencies beginning on the first day of June in the year in which the Master Plan was approved through the thirtieth day of May in the following year. This section does not prohibit changes in the Master Plan, subject to State Board approval, to address staff development needs identified after the Master Plan was approved.

Lastly, the statute requires evaluation of the effectiveness of the professional staff development programs. The WVBE has charged the WVDE Office of Research to meet this requirement.

Goals of the Evaluation

This evaluation study provides summative information about the implementation of the Master Plan for Professional Staff Development for 2011-2012 as follows:

Implementation of planned sessions, including the number of teachers, administrators, and others who participated in the professional development sessions targeted at each of the goals listed in the PD Master Plan from June 1, 2011 through May 31, 2012; sessions planned versus sessions delivered; duration of the sessions; location of the sessions; attendance at sessions conducted by each of the providers; and the delivery mode (i.e., online, face-to-face, blended, or other).

Participant perceptions about the sessions' adherence to research-based practices for high quality professional development, including whether sessions were (a) intensive in nature; (b) specific and content-focused; (c) relevant to participants' current needs and professional circumstances; (d) hands-on with active learning opportunities; (e) supported by follow-up discussion or collaboration at participants' workplaces or online; (f) supported by related follow-up PD sessions; and (g) beneficial and had a positive impact on participants' students and/or schools.

Participant perceptions about the sessions' helpfulness with regard to reaching the specific goals of the PD Master Plan, including whether the professional development helped participants to (a) deliver standards-based instruction in reading and mathematics (and other content areas) to ultimately improve student learning; (b) apply their knowledge of the Common Core State Standards in their professional practice with specific attention to addressing writing and text complexity, designing school-wide efforts to improve literacy and numeracy, and ensuring that technology and science are integrated into improvement efforts; (c) apply the West Virginia Professional Teaching Standards to ensure that all students in West Virginia are served by high quality educators; and/or (d) exercise increased leadership and collaboration to facilitate school improvement.

Participants' perceived (self-reported) outcomes resulting from their involvement in professional development associated with the PD Master Plan—for example, changes in educators' (a) knowledge; (b) behaviors and skills; and (c) attitudes and beliefs.

Methods

Population to be Studied

This study examines the performance of professional development providers in implementing the 2011-2012 Master Plan for Professional Staff Development (PD Master Plan), which was approved by the West Virginia Board of Education in May 2011. The list of providers includes the following:

1. Marshall University June Harless Center
2. Regional Education Service Agency (RESA) 1
3. RESA 2
4. RESA 3
5. RESA 4
6. RESA 5
7. RESA 6
8. RESA 7
9. RESA 8
10. West Virginia Center for Professional Development (CPD)
11. West Virginia Department of Education (WVDE) Office of Assessment and Accountability
12. WVDE Office of Healthy Schools
13. WVDE Office of Institutional Education Programs
14. WVDE Office of Instruction
15. WVDE Office of School Improvement
16. WVDE Office of Special Programs
17. WVDE Office of Title I
18. WVDE Office of Title II, III, and System Support (Office of International Schools, only)

Not present in this list are three providers that participated in the 2010-2011 PD Master Plan: Fairmont State University, WVDE Office of Career and Technical Instruction, and WVDE Office of Instructional Technology. Also not included in this list are several WVDE offices that provide professional development to educators and administrators, which did not participate in the formation of the PD Master Plan in either year, including the Office of Adult Education and Workforce Development, Office of Career and Technical Accountability and Support, Office of Career and Technical Innovations, Office of Child Nutrition, and Office of Professional Preparation. Additionally, nine public institutions of higher education with teacher preparation programs are absent from this list of providers.

Sampling Procedures

All 18 professional development providers in the PD Master Plan reported on all sessions they conducted as part of the Plan, providing the (a) title of session, (b) beginning and ending dates, (c) duration of the session in hours, (d) format of the sessions, (e) number of participants, and (f) e-mail addresses for all participants (see WVBE 2011-2012 PD Master Plan Session Report form in Appendix B, p. 63). Using aggregated data from items a-e, we provide detailed information in this report on various aspects of the PD Master Plan implementation.

Using the e-mail addresses of participants reported by the providers as attending sessions held from June 1, 2011 through March 31, 2012, we conducted two online surveys of teachers, administrators, and others who attended the professional development to collect their impressions of the quality of the professional development they received. For both the first and second participant surveys (conducted in late fall, November-December, 2011 and spring, April-May, 2012), we applied multistage sampling—systematic, stratified, and simple random—to select participants for this study, using the following procedure:

- We combined the e-mail addresses—each e-mail address with its associated PD Master Plan session ID and provider—into one comprehensive Excel file (N = 9,686 for the first participant survey; N = 4396 for the second).
- Participants were sorted by e-mail address and assigned a random number. The sample was then resorted by random number and the first occurrence of each individual's e-mail was selected. For the spring survey, an extra step was involved to avoid contacting any individual twice in one year. The sample was checked against the sample from the fall, and any case that had been previously surveyed was removed.
- The sample was then stratified by provider and a simple random sample was drawn for each provider.

The first sample (n = 4,332) was larger than the second sample (n = 1,980), due to the greater number of participant e-mail addresses supplied by providers for the first reporting period, and also due to the elimination of participants who had been part of the first sample. Overall, sampling for each provider was as shown in Table 1 below.

Table 1. Sampling Overall and By Provider for Participant Survey

Provider	Attendance Reported	E-mail addresses provided	Sample of June-March participants
Total	21,552	14,725	6,312
Center for Professional Development	1,109	1,086	558
Marshall University	1,181	793	320
RESA 1	389	315	162
RESA 2	556	305	198
RESA 3	272	186	128
RESA 4	1,086	747	400
RESA 5	980	477	291
RESA 6	319	196	114
RESA 7	653	536	302
RESA 8	402	386	237
WVDE Office of Assessment and Accountability	1,133	1,092	457
WVDE Office of Healthy Schools	795	845	356
WVDE Office of Institutional Education Programs	726	399	196
WVDE Office of Instruction	3,995	2,616	912
WVDE Office of School Improvement	1,150	1,586	589
WVDE Office of Special Programs	3,958	1,029	414
WVDE Office of Title I	2,700	2,021	605
WVDE Office of Title II, III, and System Support	148	110	73

It should be noted that participants in professional development scheduled during the months of April and May, 2012 were not surveyed to avoid interfering with the *WESTEST 2* testing window and in recognition of the fact that teachers and others are difficult to reach with the onset of the summer break.

It should also be noted that the online reporting system for providers—that is, the WVBE 2011-2012 PD Master Plan Session Report—and the diligence of the providers in using it resulted in a much higher percentage of reported participants being represented with e-mail addresses, from which a sample could be drawn. This year, providers supplied e-mail addresses for about three-quarters of reported participants, compared with less than half last year.

Sample Size, Power, and Precision

Knowing the population of each provider, we used sample size calculation software⁵ to determine what sample size was needed to attain a 95% confidence level with a +/-3%, margin of error, and then drew a sample sufficient to achieve that level of confidence. The sample amounted to about 43% of the e-mail addresses submitted by providers, or approximately 6,300 attendee e-mail addresses. This sample is not large enough, however, to provide reliable information about individual sessions or events.

⁵ MaCorr Research (n.d.) Sample Size Calculator. Available online at <http://www.macorr.com/sample-size-calculator.htm>.

Measures and Covariates

As mentioned above, providers used the WVBE 2011-2012 PD Master Plan Session Report to report essential information about each professional development session they conducted, including (a) name of provider, (b) contact information, (c) title of session, (d) duration in hours, (e) beginning and ending dates, (f) county location, (g) format (face-to-face, online, or blended), (h) number of participants, (i) e-mail addresses for all participants, and (j) comments (optional) (see Appendix B, p. 63).

Information collected using this session report was combined with information about the planned sessions in the PD Master Plan, which allowed us to report on sessions held related to each of the four West Virginia Board of Education goals for professional development, and other information about implementation of the plan.

To collect participants' perceptions about the quality, relevance, and effectiveness of the training, an online survey questionnaire posted via SurveyMonkey, the WV PD Master Plan: 2012 Participant Survey was used (see Appendix C, p. 65). Each participant in the survey was contacted—up to five times—about only one PD session they attended between June 1, 2011 and March 31, 2012 (see e-mail survey participation requests in Appendix D, p. 71). Responses about these individual provider offerings were then aggregated to provide overall perceptions about various aspects of the training offered. The questionnaire included a section on participant demographics and three sections on participant perceptions about the PD they attended.

Independent variables related to participants included (a) role, (b) county, (c) level of educational attainment, (d) years of experience in education, (e) estimated number of hours spent in PD this year, (f) programmatic level, (g) professional role, and (h) main content area taught, if any. Dependent variables were participant perceptions about various aspects of the PD sessions, including (a) the sessions' adherence to research-based practices for high quality professional development; (b) the sessions' helpfulness with regard to the specific goals of the PD Master Plan; and (c) perceived (self-reported) outcomes of participants' involvement in the professional development.

Lastly, we surveyed providers in early June 2012, to discover the reasons why some sessions listed in the PD Master Plan were not offered. To collect these data, we used an Excel spreadsheet (see Appendix E, p. 77) that listed for each provider, the sessions in the PD Master Plan for which we had not received any reports, and asked them to select one of the following possible explanations:

- Lack of applicants or registrations
- Inclement weather
- Canceled to protect instructional time with students
- Anticipated funding not received
- Priorities for professional development changed
- Session was identified as a duplication of effort
- Session did not receive the required approvals
- Other

If providers selected *Other*, they were asked to provide an explanation.

Research Design

We used a multimethod research design for this project, and used descriptive statistics to explore five distinct areas: (a) implementation of the professional development sessions listed in the PD Master Plan, (b) description of participants, (c) participants' perceptions of the quality of professional development, (d) participant perceptions of the extent to which professional development met the goals established as part of the PD Master Plan, and (e) participant perceptions about the impact of the professional development on their knowledge, behaviors, and attitudes/beliefs. We also conducted a variety of post-hoc exploratory analyses to determine the relationship between variables included in the data set. Each of these five areas involved a variety of analyses, as described below.

Description of professional development

We used descriptive analyses including frequency distributions and cross-tabulations to provide an overview of the professional development offered by each provider during the 2011–2012 academic year and trends from 2010–2011 to 2011–2012. This analysis included a description of which events were published in the Master Plan and then provided, as well as those that were published, but never provided (e.g., canceled events). We analyzed results of the missing sessions reports submitted by providers that did not deliver all of the sessions in their plan.

Description of participants

We conducted additional frequency analyses to examine the composition of the participant survey sample with respect to key demographic variables, including respondents' (a) county of employment, (b) education level, (c) professional role, (d) primary content area (if any), (e) programmatic level, (f) total number of hours spent in professional development during the current academic year, (g) overall years of experience in education, and (h) how long participants had to travel to attend the session in question.

Participant perceptions about the extent to which the professional development used research-based practices

We calculated average ratings, standard deviations, and frequency distributions to describe the extent to which participants described the PD session as adhering to research-based practices for high quality professional development, that is, whether the professional development was (a) intensive in nature, (b) specific and content-focused, (c) relevant to their needs as educators, (d) hands-on including active learning opportunities, (e) supported by follow-up discussion or collaboration at their school, office, or online, (f) supported by follow-up professional development sessions, and (g) beneficial and positive for students and/or schools. These results are presented for the overall sample as well as disaggregated by programmatic level, content area, professional role, provider, and provider group.

Participant perceptions about the extent to which the professional development met the goals established by the WVBE as part of the 2011–2012 PD Master Plan

We used descriptive statistics (i.e., mean, standard deviation, frequency distribution) to examine the extent to which the professional development provided in 2011–2012 met the goals set forth by the WVBE as part of the 2011–2012 PD Master Plan. To accomplish this, we conducted eight distinct analyses (i.e., three each for Goals 1 and 2, and one each for Goals 3 and 4). In these analyses, we first selected all response records in the data set involving respondents who attended a professional development event that providers indicated was aligned to, for example, Goal 1 as listed in the PD Master Plan. Then we determined respondents' ratings regarding the extent to which the event met this specific goal, and reported the percentage of total respondents who indicated they agreed or strongly agreed that the professional development was helpful in meeting Goal 1.

Participant perceptions about the impact of the professional development on their knowledge, behaviors, and attitudes/beliefs

The participant survey includes three pairs of items designed to assess the impact of the professional development experience upon participants' knowledge, behaviors, and attitudes/beliefs. Each pair consists of an item that asks respondents to rate their knowledge, behaviors, or attitudes/beliefs before participating in the professional development and then provide ratings for after having participated in professional development.

We used a retrospective pretest/posttest design to determine if respondents' posttest ratings are significantly different from pretest ratings (i.e., paired samples *t* tests). In addition, we conducted analyses of the effect size for the difference in respondents' pre-/posttest ratings to determine whether any statistically significant differences also have practical significance. Results were examined for the entire sample and disaggregated by programmatic level, content area, professional role, provider, and provider group.

Results

Results in this section are presented in two major sections: one devoted to implementation of the plan, based on provider reports; and one focused on the quality, alignment with Board goals, and perceived effectiveness of the professional development sessions, based on a survey of participants.

Implementation of the PD Master Plan: Analysis of Provider Reports

The following results are based on 572 reports submitted by the PD providers using the online WVBE 2011-2012 PD Master Plan Session Report, during three data collection periods: November (covering June 1–October 31, 2011), April (covering November 1, 2011–March 31, 2012), and June (covering April 1–May 31, 2012).

Level of implementation

Overall, 77.5% of the professional development sessions included in the 2011–2012 PD Master Plan were actually provided to educators across the state. PD providers were asked to report dates, locations, and attendance figures, as well as attendee e-mail addresses for all sessions they included in the PD Master Plan (Table 2). If we received none of this information for a particular session, we counted that session as not provided or reported. In some cases, an individual session listed in the PD Master Plan was held several times with different groups of educators in various locations during the course of the academic year. In those cases, we aggregated the e-mail addresses and attendance numbers and reported them here as one of the planned sessions listed in the PD Master Plan (PD provided column), and also broke out the number of individual sessions (repetitions) held.

The RESAs planned their sessions together, and submitted the same seven titles, which functioned more as categories of professional development than as specific offerings (e.g., “Support School Improvement Process [Curriculum, Instruction, Assessment, School Culture & Climate, and Student/Parent/Community Support]”). They then held multiple sessions under each of these titles.

Figure 1 and Table 2 show the level at which each of the providers followed the plan they submitted and had approved as part of the PD Master Plan. Eight providers delivered all of the professional development they planned—RESAs 2, 3, 4, 6, 7, and 8 (seven of seven sessions planned); WVDE Office of Healthy Schools (three of three), and WVDE Office of Title I (eight of eight). The providers with the lowest level of implementation included WVDE Office of School Improvement (two of 13),⁶ WVDE Office of Assessment and Accountability (eight of 14), and Marshall University (11 of 17).

⁶ The Office of School Improvement underwent a great deal of turnover during this time period. Staff indicated that sessions were cancelled to avoid duplications of effort, to protect instructional time, or that content was delivered in other ways (by webinar, or via technical assistance) or by other agencies (i.e., Higher Education Policy Commission, Education Alliance).

An analysis of the data from providers regarding undelivered professional development revealed the following most prevalent explanations (each followed by number of sessions cancelled for this reason):

- A lack of requests from counties/schools, or registrations by individuals (11)
- Scheduling issues (10)—that is, sessions were delivered before June 1st, 2011 or postponed until after June 1st, 2012
- Sessions delivered but not reported by former staff members (6)
- Changing priorities (5)
- Avoidance of a duplication of effort (5)

Other, less prevalent issues included funding shortfalls (i.e., grants not received), the need to protect students’ instructional time, and providers finding other ways to deliver content (e.g., technical assistance) or through other organizations.

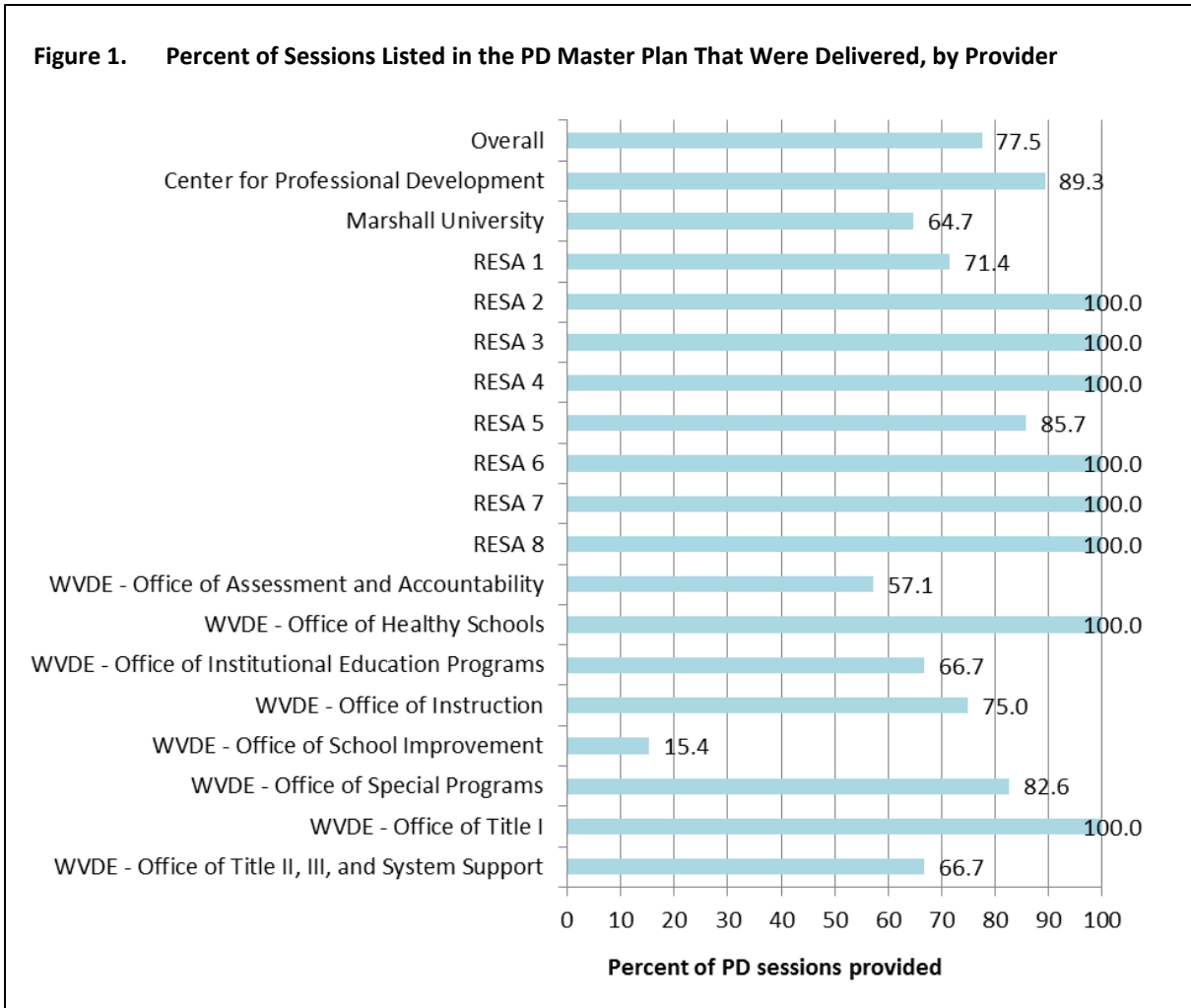
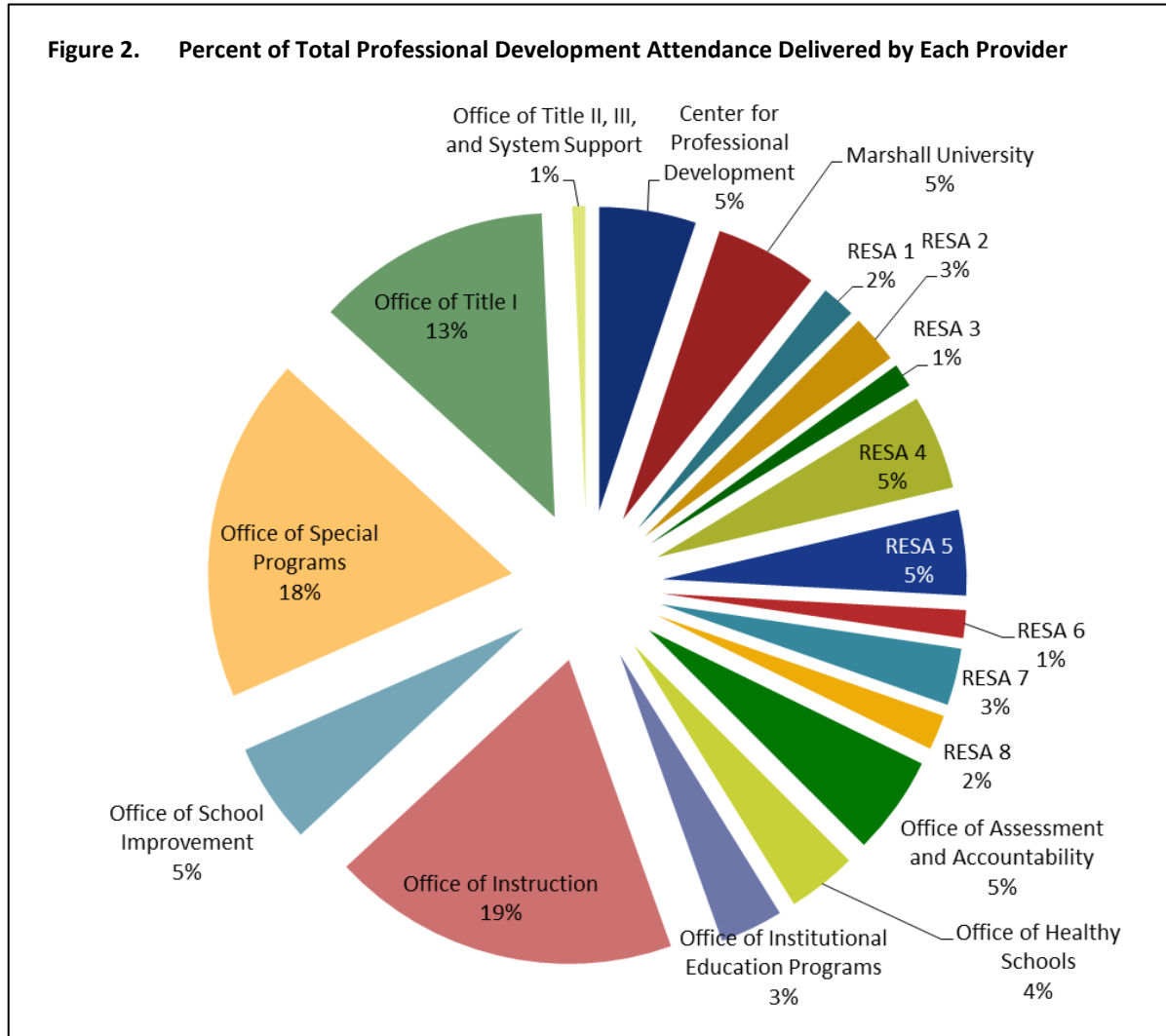


Table 2. Provision of Professional Development Included in the PD Master Plan and Attendance, by Provider

Provider	PD planned	PD provided	PD not provided or not reported	Percent of Planned PD provided	Number of individual sessions held	Attendance all sessions
Overall	218	169	48	77.5	572	21,552
Center for Professional Development	28	25	3	89.3	41	1,109
Marshall University	17	11	6	64.7	62	1,181
RESA 1	7	5	1	71.4	11	389
RESA 2	7	7	0	100.0	20	556
RESA 3	7	7	0	100.0	19	272
RESA 4	7	7	0	100.0	33	1,086
RESA 5	7	6	1	85.7	32	980
RESA 6	7	7	0	100.0	13	319
RESA 7	7	7	0	100.0	42	653
RESA 8	7	7	0	100.0	14	402
WVDE Office of Assessment and Accountability	14	8	6	57.1	38	1,133
WVDE Office of Healthy Schools	3	3	0	100.0	7	795
WVDE Office of Institutional Education Programs	21	14	7	66.7	40	726
WVDE Office of Instruction	32	24	8	75.0	102	3,995
WVDE Office of School Improvement	13	2	11	15.4	5	1,150
WVDE Office of Special Programs	23	19	4	82.6	62	3,958
WVDE Office of Title I	8	8	0	100.0	23	2,700
WVDE Office of Title II, III, and System Support	3	2	1	66.7	8	148

Attendance trends

Total attendance ranged from 148 (WVDE Office of Title II, III, and System Support) to 3,995 (WVDE Office of Instruction) (Table 2). Figure 2 displays the percentage of the total attendance (21,552) delivered by each of the providers. The top three providers of professional development associated with the PD Master Plan, in terms of attendance, were the WVDE's Office of Instruction (3,995), Office of Special Programs (3,958), and Office of Title I (2,700).



Attendance overall is down nearly 42% from last year, dropping from 37,062 in 2010-2011 to 21,552 in 2011-2012 (Table 3). In fact, there were fairly dramatic shifts in attendance across the board during this period. Some of the variation was due to changes in the list of organizations that participated in forming the PD Master Plan, especially among WVDE offices; the Offices of Career and Technical Education, and Instructional Technology dropped out of the PD Master Plan in 2011-2012, whereas the Offices of Healthy Schools, School Improvement, and Special Programs joined for the first time that year. Still, these changes accounted for only a net loss of 870 participants. Overall, the WVDE saw an increase in attendance at their professional development sessions of 20.5%. Looking only at WVDE offices that participated both years, there was a rise in attendance of nearly 23%. On the other hand, in 2011-2012, the RESAs saw a loss in participation of 73.4%—dropping from 17,508 participants to 4,657 participants—which accounts for about 83% of the loss in attendance overall (about 13 of 15.5 thousand fewer participants). Both CPD and the IHEs, also, reported lower attendance in 2011-2012, dropping by 50.5% and 77.3% respectively,

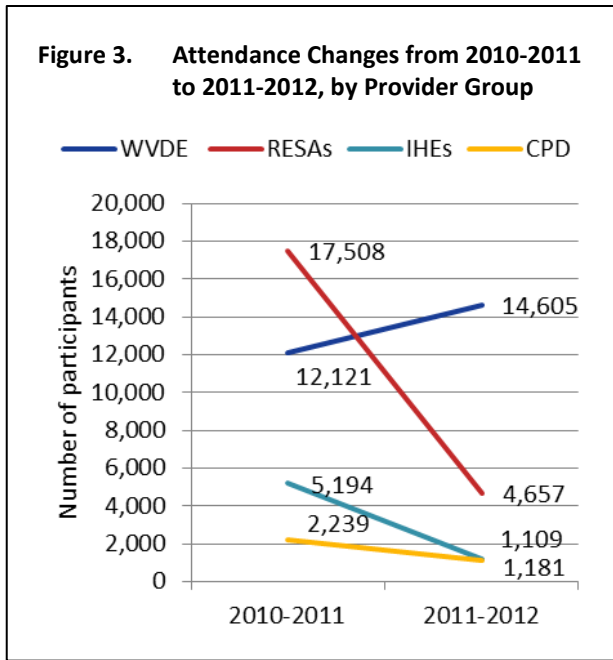
and accounting for the remaining loss in attendance between the 2 years. Figure 3 illustrates these changes.

Table 3. Attendance Trends at PD Master Plan Sessions 2010-2011 to 2011-2012, by Provider

Provider	Attendance		Percent increase/ decrease
	2010-2011	2011-2012	
Total	37,062	21,552	-41.8
Center for Professional Development	2,239	1,109	-50.5
Fairmont State University	75	—	*
Marshall University	5,119	1,181	-76.9
RESA 1	609	389	-36.1
RESA 2	6,164	556	-91.0
RESA 3	3,472	272	-92.2
RESA 4	2,547	1,086	-57.4
RESA 5	604	980	62.3
RESA 6	989	319	-67.7
RESA 7	1,703	653	-61.7
RESA 8	1,420	402	-71.7
WVDE Office of Assessment and Accountability	2,305	1,133	-50.8
WVDE Office of Career and Technical Education	1,992	—	*
WVDE Office of Healthy Schools	—	795	*
WVDE Office of Institutional Education Programs	75	726	868.0
WVDE Office of Instruction	2,904	3,995	37.6
WVDE Office of Instructional Technology	3,041	—	*
WVDE Office of School Improvement	—	1,150	*
WVDE Office of Special Programs	—	3,958	*
WVDE Office of Title I	1,484	2,700	81.9
WVDE Office of Title II, III, and System Support	320	148	-53.8

— indicates nonparticipation in the PD Master Plan for that year.

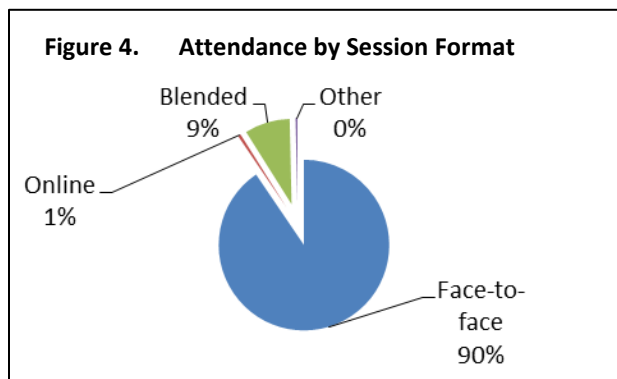
* indicates less than 2 years of attendance were data available.



By combining information about the PD sessions included in the PD Master Plan with information submitted by providers in the PD Master Plan Session Reports, we computed attendance figures by Board goal. This analysis revealed that the goals were well covered, with a minimum of about 6,900 participants attending sessions focused on each of the goals and sub-goals, as shown in Table 4.

Table 4. Attendance at Professional Development by Goal Focus

WVBE Goals for Professional Development	Attendance
Goal 1. Deliver Common Core State Standards (CCSS)-based instruction in English/Language Arts.	7,735
Goal 1. Deliver CCSS-based instruction in mathematics.	8,751
Goal 1. Deliver standards-based instruction in other content areas.	6,916
Goal 2. Apply CCSSs in addressing writing and text complexity.	7,282
Goal 2. Apply CCSSs in designing school-wide efforts to improve literacy and numeracy.	8,755
Goal 2. Apply CCSSs in ensuring technology and science are integrated into improvement efforts.	8,706
Goal 3. Effectively apply the West Virginia Professional Teaching Standards to ensure that all students are served by high quality educators.	11,370
Goal 4. Exhibit increased leadership and collaboration to facilitate school improvement.	11,242



As the WVDE moves away from face-to-face meetings toward other formats, 2011-2012 will likely serve as a baseline year for tracking changes in professional development delivery modes. Figure 4 shows that 90% of participants attended professional development delivered face-to-face, while only 1% attended online sessions and 9% attended sessions with a combination of delivery modes. It

should be noted, however, that the WVDE Office of Instructional Technology did not participate in the 2011-2012 PD Master Plan, which would have altered this picture considerably due to its large slate of online professional development offerings.

Duration and time span

As we write this report, the 2012-2013 PD Master Plan is in effect, which includes a definition of professional development that features the notion of *time* as an essential element:

Professional development includes *sustained* experiences that lead to the development of knowledge, skills, practices, and dispositions educators need to help students perform at higher levels and achieve college and career readiness. (WVBE, 2012, p. 5, emphasis added)

To establish a baseline for later measurement of change in this aspect of professional development—that is, if it was sustained over time—we calculated the average duration (in hours) of professional development sessions, as well as the average timespan over which providers conducted their sessions (in days) (Table 5). The following findings from the providers' reports are not entirely irrelevant to this year's evaluation, however. These dimensions—especially the notion of timespan—do provide some insight into the practice of providing follow-up, which is one of the research-based practices examined in this report in a later section. We do want to remind readers, however, that providers were not held accountable for offering more sustained experiences in the 2011-2012 PD Master Plan.

Table 5. Average Duration and Timespan of Professional Development Sessions, by Provider

Provider	Duration(Hours)			Time Span (Days)		
	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Center for Professional Development	44.7	13	50	49.7	4	361
Marshall University	13.3	1.0	410.0	8.0	1	210
RESA 1	15.5	1.0	78.0	18.5	1	187
RESA 2	7.5	6.0	35.0	1.3	1	5
RESA 3	5.2	1.0	12.0	1.1	1	2
RESA 4	4.8	1.0	14.0	1.1	1	2
RESA 5	16.6	1.0	45.0	46.6	1	195
RESA 6	3.2	1.0	14.0	1.1	1	2
RESA 7	5.7	1.0	21.0	0.8	1	3
RESA 8	5.4	1.0	12.0	1.1	1	2
WVDE Office of Assessment and Accountability	6.2	1.0	32.0	1.1	1	4
WVDE Office of Healthy Schools	16.0	12.0	32.0	2.3	2	4
WVDE Office of Institutional Education Programs	9.7	3.0	24.0	19.8	1	363
WVDE Office of Instruction	9.9	2.0	50.0	5.9	1	160
WVDE Office of School Improvement	15.6	9.0	27.0	1.0	1	4
WVDE Office of Special Programs	14.5	1.0	64.0	2.7	1	45
WVDE Office of Title I	12.0	3.0	24.0	1.7	1	3
WVDE Office of Title II, III, and System Support	7.5	1.0	24.0	1.4	1	3

Seven providers conducted at least one professional development session that was sustained over several weeks: Center for Professional Development, Marshall University, RESA 1, RESA 5, WVDE Office of Institutional Education Programs, WVDE Office of Instruction, WVDE Office of Special Programs.

Sixteen providers (excluding RESAs 3 and 8) conducted at least one professional development session that would meet the WVBE's current definition for *sustained* professional development—that is “professional development lasting fourteen hours or more.” (WVBE, 2012, p. 7).

Six providers had average durations in hours for their professional development that indicated they *typically* offer sustained professional development: Center for Professional Development (44.7 hours), RESA 1 (15.5), RESA 5 (16.6), WVDE Office of Healthy Schools (16.0), WVDE Office of School Improvement (15.6), and WVDE Office of Special Programs (14.5).

Format, duration, and timespan

Combining two initiatives in the WVDE and WVBE—that is, an emphasis on reducing face-to-face meetings and on providing more sustained professional development—we found that, for sessions reported by providers in 2011-2012, those using a blended format tended to be more sustained than other formats. The average duration for blended sessions was 17.5 hours, 12 hours for face-to-face, and 2.7 hours for online sessions. It is important to note here that there were very few online sessions reported (about 1% of the total), especially with the absence of the WVDE Office of Instructional Technology in this year's PD Master Plan; consequently, this finding is of limited value.

Location and top providers

We asked providers to report the physical location where professional development sessions took place, and we also looked at what format was used for professional development in each of the counties (Table 6). Notably there were five counties where no professional development was delivered by the 18 providers in the PD Master Plan: Barbour, Monroe, Pleasants, Ritchie, and Taylor. Two of those counties were located in Region 5 (Pleasants and Ritchie) and two were in Region 7 (Barbour and Taylor). RESAs were the top providers of PD in counties outside of Kanawha County in terms of number of sessions offered, followed by the Office of Instruction. RESAs were also the top providers of PD in more counties outside of Kanawha County in terms of the number of participants, followed by the Office of Title I and the Office of Instruction.

Table 6. Top Providers and Format of Professional Development, by County

County	Total attendance	Top providers				Attendance by Format		
		By number of sessions		By total attendance		Face-to-		
		Provider(s)	N	Provider(s)	N	Blended	face	Online
All	21,552	CPD	25	OI	3,995	1,852	19,504	120
Barbour	—	—	—	—	—	—	—	—
Berkeley	453	OI	6	RESA 8	238		453	
Boone	96	RESA 3	3	RESA 3	51		96	
Braxton	238	CPD	5	Marshall	59	19	219	
Brooke	71	RESA 6	2	RESA 6	39		71	
Cabell	1,457	Marshall	16	Marshall	699	298	1,159	
Calhoun	335	RESA 5	8	RESA 5	205		335	
Clay	112	RESA 3 *	12	RESA 3	112		112	
Doddridge	17	RESA 7 *	3	RESA 7	17	4	13	
Fayette	478	RESA 4	5	RESA 4	416	13	465	
Gilmer	84	RESA 7	4	RESA 7	54	6	78	
Grant	86	OI	4	OI	61		86	
Greenbrier	156	RESA 4	3	RESA 4	109		156	
Hampshire	390	RESA 8; OI; OSP	3	OSP	281		390	
Hancock	50	RESA 6*	2	RESA 6	50		50	
Hardy	34	RESA 8*	2	RESA 8	34		34	
Harrison	2,565	RESA 7	23	Title I	1,236	283	2,282	
Jackson	5	RESA 5*	1	RESA 5	5		5	
Jefferson	88	RESA 8, OAA, OSP	1	OAA	48		88	
Kanawha	6,728	CPD	20	OSP	2,538	839	5,889	
Lewis	663	OI	5	Title I	254	18	645	
Lincoln	77	RESA 2*	3	RESA 2	77		77	
Logan	223	Marshall	9	OSP	187	27	196	
Marion	148	RESA 7, OAA, OHS, OI	1	OI	61	20	128	
Marshall	102	RESA 6*	2	RESA 6	102		102	
Mason	195	Marshall	20	Marshall	117		195	
McDowell	42	OI	2	RESA 1	22		42	
Mercer	126	OAA	4	OAA	100		126	
Mineral	15	OIE*	1	OIE	15		15	
Mingo	186	RESA 2	4	RESA 2	78		186	
Monongalia	2,058	CPD	15	OI	965	89	1,969	
Monroe	—	—	—	—	—	—	—	—
Morgan	41	OSP*	1	OSP	41		41	120

Table 6 continues on next page.

Table 6. Top Providers and Format of Professional Development, by County

County	Total atten-	Top providers				Attendance by Format		
		By number of sessions		By total attendance		Blended	Face-to-	Online
Nicholas*	782	RESA 4	18	RESA 4	447	37	669	
Ohio	82	OI	3	OI	68	3	79	
PD online	120	Title II, III, SS	4	OI	66			
Pendleton	92	RESA 8	2	OAA	65		92	
Pleasants	—	—	—	—	—	—	—	—
Pocahontas	179	RESA 4	5	RESA 4	90		179	
Preston	7	OAA*	1	OAA	7		7	
Putnam	48	OI	3	OI	36		48	
Raleigh	1,060	RESA 1, WVDE -OSP	8	RESA 1	317	30	1030	
Randolph	79	Marshall	3	Marshall	61		79	
Ritchie	—	—	—	—	—	—	—	—
Roane	96	RESA 5	2	RESA 5	88		96	
Summers	6	OAA*	1	OAA	6		6	
Taylor	—	—	—	—	—	—	—	—
Tucker	91	RESA 7*	3	RESA 7	91	91		
Tyler	6	OI*	1	OI	6		6	
Upshur	52	RESA 7*	2	RESA 7	52	12	40	
Wayne	144	OI	3	OI	73		144	
Webster	17	RESA 4*	1	RESA 4	17		17	
Wetzel	150	RESA 6	6	RESA 6	120	8	142	120
Wirt	25	OI*	1	OI	25		25	
Wood	951	RESA 5	20	RESA 5	650	55	896	
Wyoming	246	OAA*	4	OAA	246		246	

* In Nicholas County, there was a session, which the provider indicated was “Other.” Attendance was 76.

NOTE: CPD = WV Center for Professional Development; Marshall = Marshall University June Harless Center; OAA = WVDE Office of Assessment and Accountability; OHS = WVDE Office of Healthy Schools; OIE = WVDE Office of Institutional Education Programs; OI = WVDE Office of Instruction; OSI = WVDE Office of School Improvement; OSP = WVDE Office of Special Programs; RESA = regional education service agency (one each for eight regions in West Virginia); Title I = WVDE Office of Title I; Title II, III, SS = WVDE Office of Title II, III, and System Support.

Use of Research-Based Practices, Alignment with Goals, and Perceptions of Impact: Analysis of Participant Survey Responses

The remainder of the Results section is based on data collected via an online survey of PD participants who attended professional development sessions held from June 1, 2011 to March 31, 2012. The survey was conducted in two phases: November 16–December 30, 2011, to cover professional development provided during the summer and early fall months, and April 16–May 18, 2012 to cover professional development offered during late fall through March.⁷ Results here were aggregated from both data collection periods.

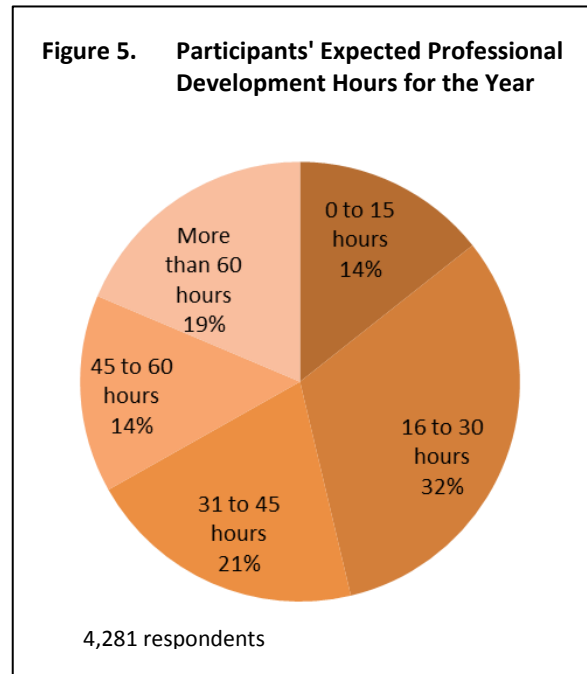
The survey random sample was made up of an unduplicated list of 6,312 participants, who were asked about one professional development event they attended. Of this sample, 559 were eliminated due to attrition, including 413 bad e-mail addresses, and 146 individuals who contacted us to report that they did not attend the event we asked them about, or they attended as a facilitator or in some other nonparticipant capacity. After adjusting for attrition, the sample was reduced to 5,753; of these, we received responses from 4,571. After removing unusable responses, the dataset was reduced to 4,281 responses. This represents a response rate of 67.8% for the full sample, or 74.4% for the sample adjusted for attrition.

Demographic characteristics of survey respondents.

Frequency analyses revealed characteristics of the respondents with respect to key demographic variables.

Respondents' estimated hours of professional development

We asked respondents to estimate how many hours of professional development they expected to complete by the end of the 2011–2012 school year. It should be noted that we did not define the nature of professional development in the survey, so respondents could be responding about anything they perceived to be professional development. This could include initiatives of varying scopes sponsored by a variety of groups. Further, the survey was administered during the fall and spring; therefore, we had to ask respondents to estimate how much time they believed they would spend by the end of the year. Consequently, in addition to self-report bias, there is likely some error in asking them to estimate a total before year's end.



⁷ An additional data collection period took place from August 1–31 for 249 participants in yearlong professional development offered by the Center for Professional Development (CPD) when it was discovered that CPD was left out of the second data collection period sampling frame.

Almost all (85.6%) anticipated that they would attend 16 or more hours, with 18.6% indicating they would attend more than 60 hours of professional development. Only 14.3% stated they would attend between 0 and 15 hours of PD during the year. This indicates that our sample tends to participate in a great deal of professional development (Figure 5).

Respondents' highest degree attained

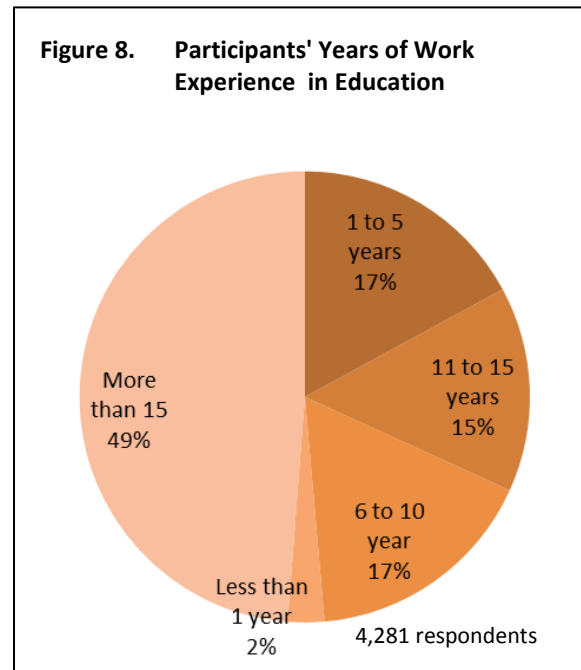
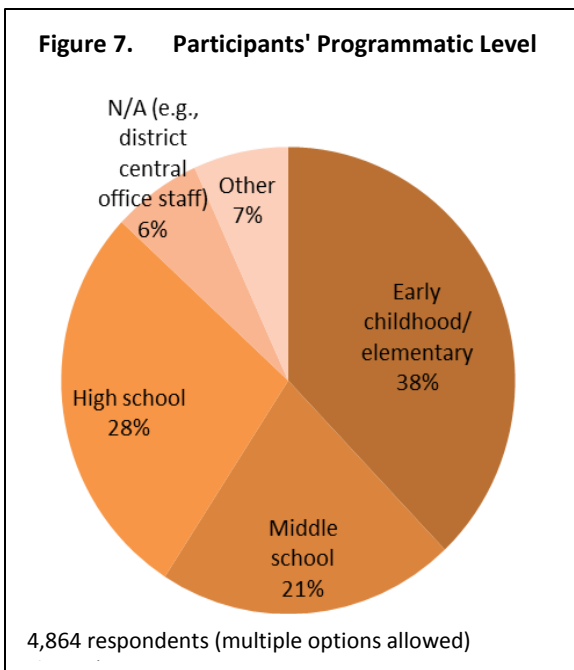
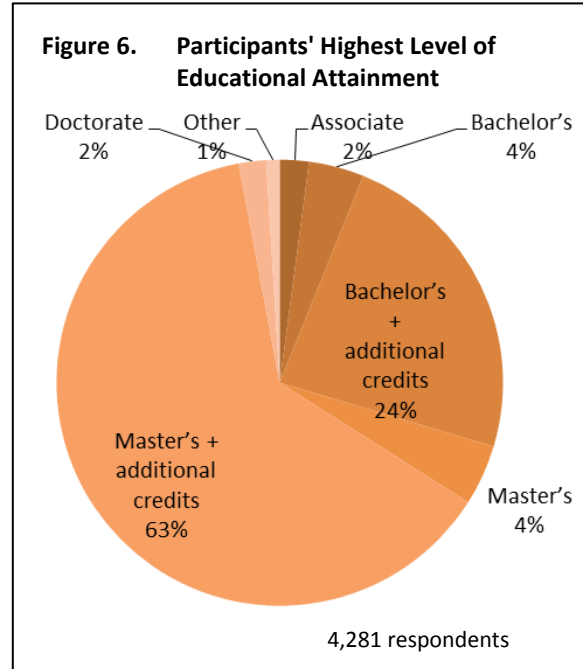
The respondents were well-educated—nearly all had achieved credit beyond a bachelor’s degree, and two thirds had at least a master’s degree (Figure 6).

Respondents' programmatic level

The largest number of respondents worked at the early childhood/elementary level (38%), followed by high school (28%) and middle school (21%); in addition, a small portion of the respondent pool was WVDE or district central office staff working at all grade levels or they indicated their role was *Other* (Figure 7).

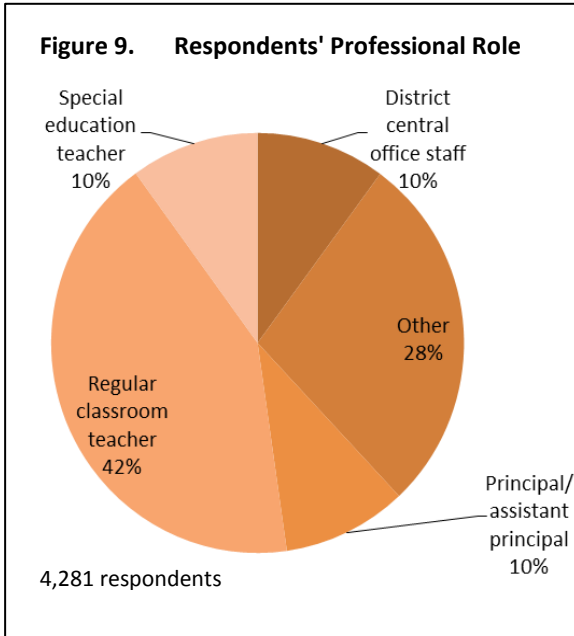
Respondents' years of experience

About half of respondents (49%) had more than 15 years of experience. In fact, 81% of the sample had 6 or more years of experience. The remaining 19% had 5 or fewer years of experience. Once again, due to the size of the sample, it is reasonable to expect these results are reflective of the larger population in the field (Figure 8).



Respondents' professional role

Just over half of respondents were teachers: 42% regular classroom teachers and 10% special education teachers. Another 20% were administrators: District central office staff (10%) or principals/assistant principals (10%). The remainder—a fairly sizable group indicated their role was *Other* (28%) (Figure 9).



Respondents' primary content area

All of the content areas were covered, although certain content areas had small numbers of respondents—most notably English-as-a-second-language (15, 0.4%), and foreign language (39, 0.9%), (Figure 10).

Respondents' school districts or other employer

There were respondents from all 55 county districts, the two special districts, the WVDE, and a small number that indicated *Other* or *Out of state* (Table 7). Of course, because of the random nature of the sampling process, larger districts had a greater chance of being represented in the respondent pool.

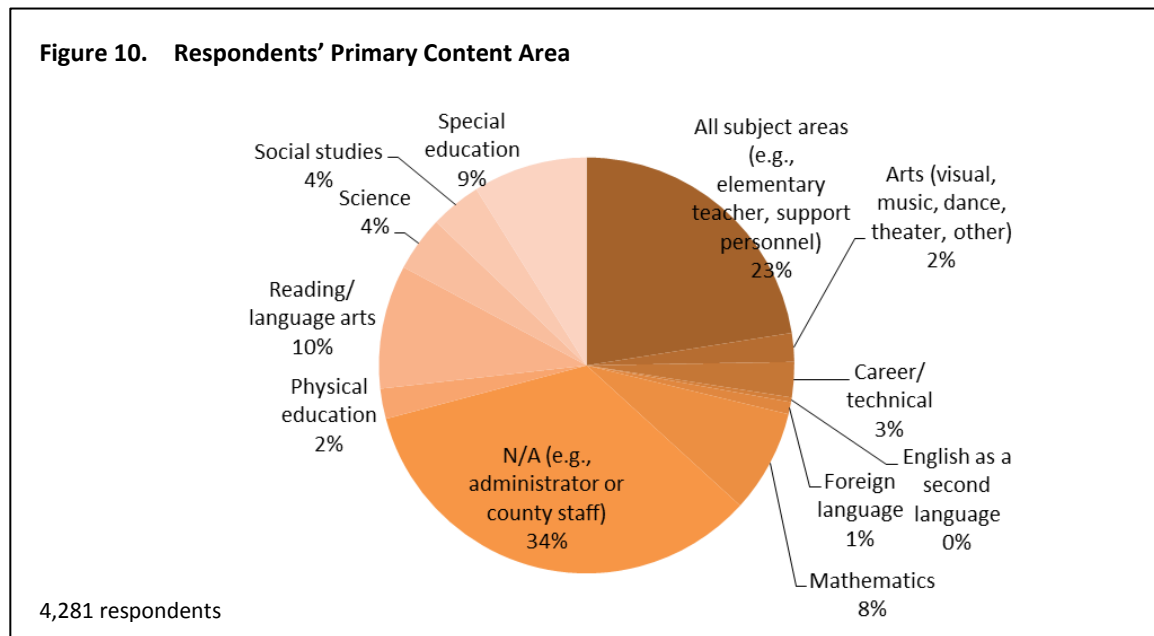


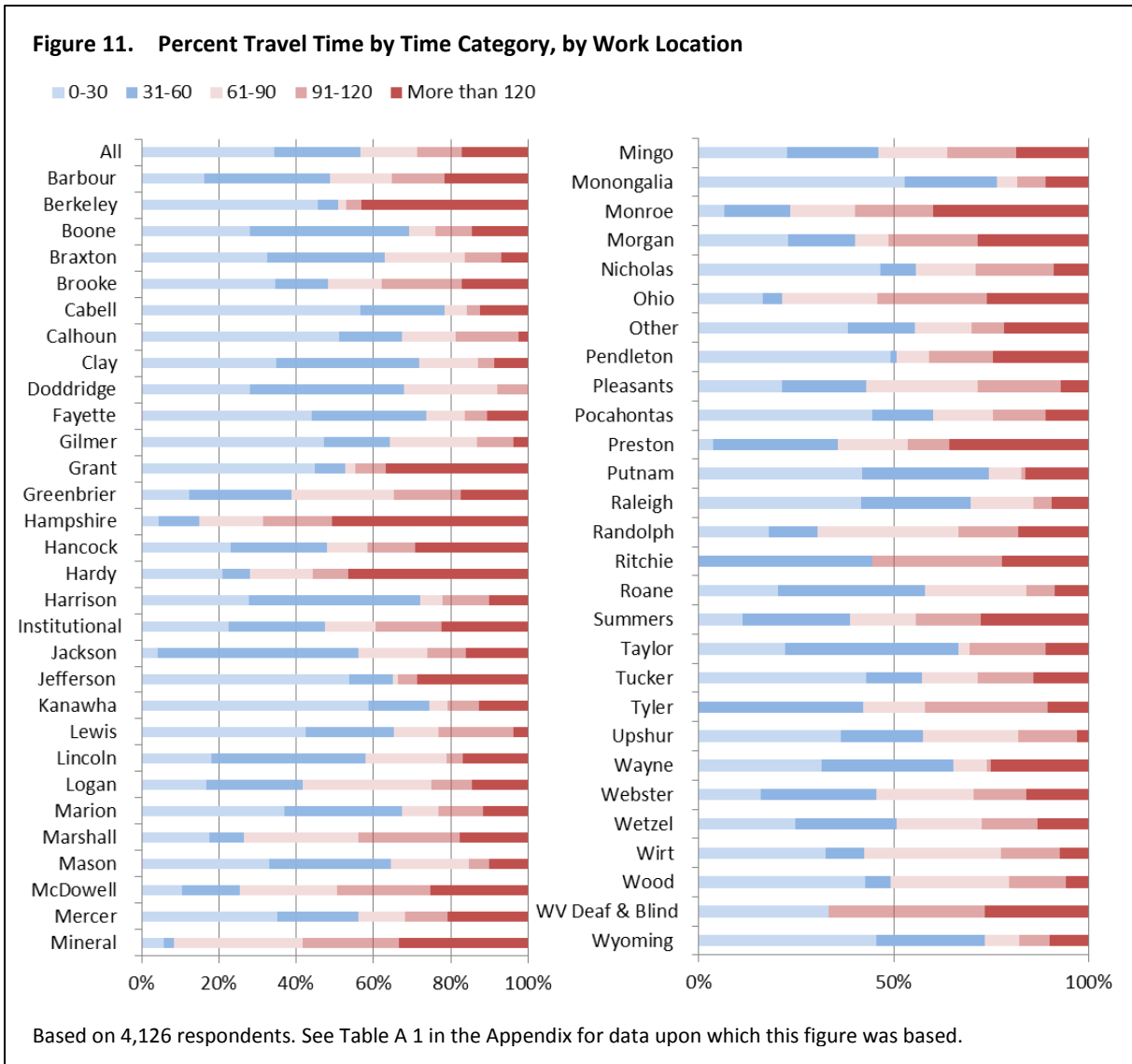
Table 7. Number and Percent of Respondents by Employer

Results: Use of Research-Based Practices, Alignment with Goals, and Perceptions of Impact: Analysis of Participant Survey Responses

	N	Percent		N	Percent
Total	4,281	100.0	Mingo County Schools	104	2.4
Barbour County Schools	38	.9	Monongalia County Schools	136	3.2
Berkeley County Schools	133	3.1	Monroe County Schools	31	.7
Boone County Schools	104	2.4	Morgan County Schools	36	.8
Braxton County Schools	43	1.0	Nicholas County Schools	91	2.1
Brooke County Schools	30	.7	Ohio County Schools	64	1.5
Cabell County Schools	155	3.6	Other	113	2.6
Calhoun County Schools	43	1.0	Out of state	28	.7
Clay County Schools	47	1.1	Pendleton County Schools	61	1.4
Doddridge County Schools	25	.6	Pleasants County Schools	28	.7
Fayette County Schools	153	3.6	Pocahontas County Schools	47	1.1
Gilmer County Schools	54	1.3	Preston County Schools	29	.7
Grant County Schools	39	.9	Putnam County Schools	100	2.3
Greenbrier County Schools	99	2.3	Raleigh County Schools	107	2.5
Hampshire County Schools	69	1.6	Randolph County Schools	73	1.7
Hancock County Schools	48	1.1	Ritchie County Schools	9	.2
Hardy County Schools	46	1.1	Roane County Schools	70	1.6
Harrison County Schools	90	2.1	Summers County Schools	37	.9
Institutional	79	1.8	Taylor County Schools	37	.9
Jackson County Schools	49	1.1	Tucker County Schools	43	1.0
Jefferson County Schools	79	1.8	Tyler County Schools	19	.4
Kanawha County Schools	303	7.1	Upshur County Schools	67	1.6
Lewis County Schools	26	.6	Wayne County Schools	95	2.2
Lincoln County Schools	95	2.2	Webster County Schools	45	1.1
Logan County Schools	50	1.2	Wetzel County Schools	69	1.6
Marion County Schools	94	2.2	Wirt County Schools	40	.9
Marshall County Schools	58	1.4	Wood County Schools	188	4.4
Mason County Schools	80	1.9	WV Schools for the Deaf & Blind	15	.4
McDowell County Schools	87	2.0	WV Department of Education	67	1.6
Mercer County Schools	93	2.2	Wyoming County Schools	83	1.9

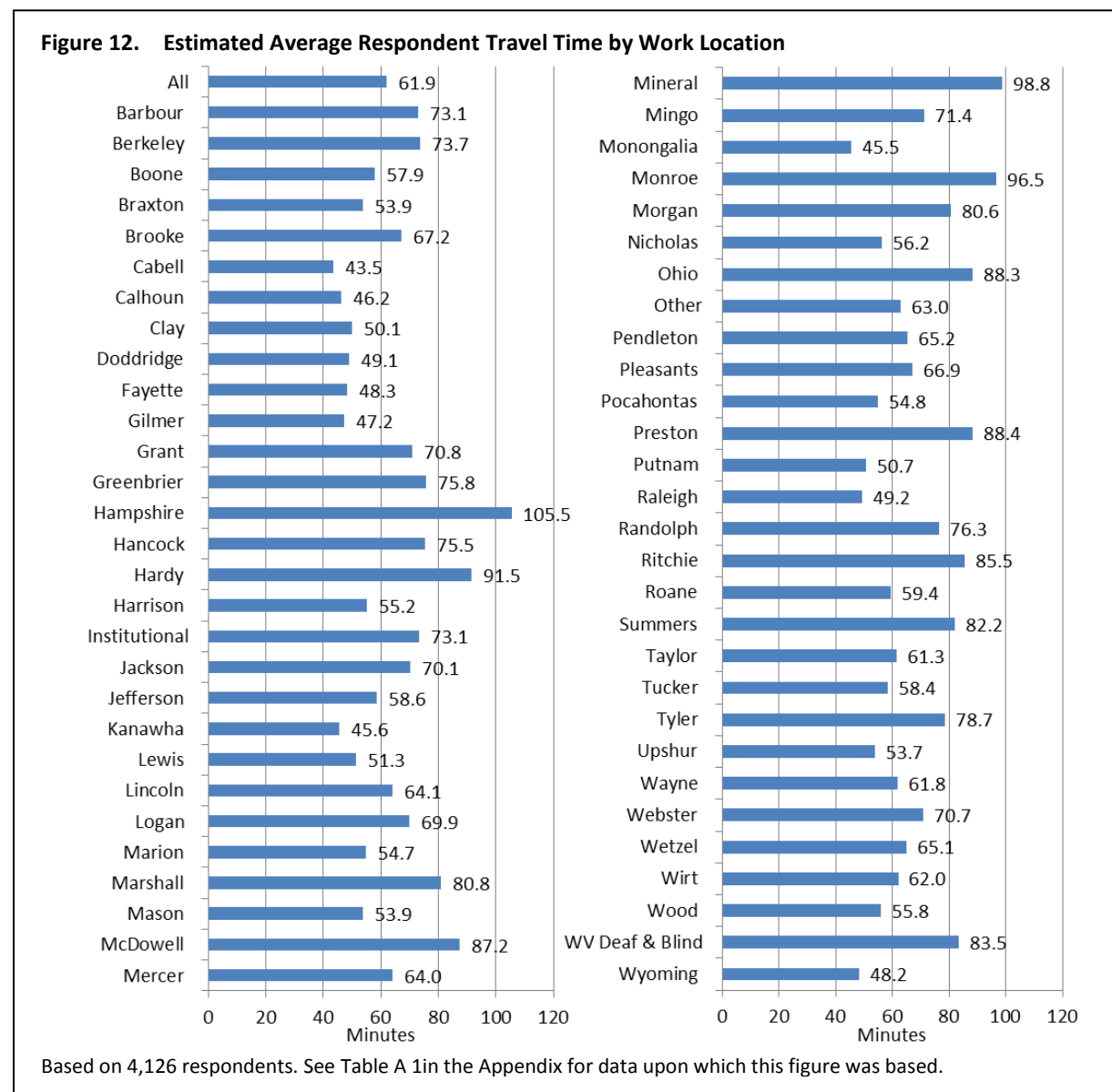
Respondents' travel time to the professional development they attended

To get a sense about how much time individuals in different parts of the state must travel to attend professional development, we included the following item: “How long did you have to travel to participate in this professional development activity?” Response options included (a) Less than 30 minutes, (b) 31-60 minutes, (c) 61-90 minutes, (d) 91 minutes to 2 hours, or (e) More than 2 hours (see Table A 1 in Appendix F p. 79). Figure 11 illustrates the breakdown of responses, with bars for each district showing the aggregated percentages of travel time. Portions of the bars in pink or red indicate travel time of more than an hour. From this illustration, we can see that educators in our representative sample in several counties had long commutes to participate in the professional development they attended. At least half of respondents in 23 counties (i.e., in descending percentages, Mineral, Hampshire, Ohio, Monroe, McDowell, Marshall, Hardy, Randolph, Preston, Greenbrier, Summers, Morgan, Logan, Tyler, Wirt, Pleasants, Ritchie, Webster, Mingo, Hancock,



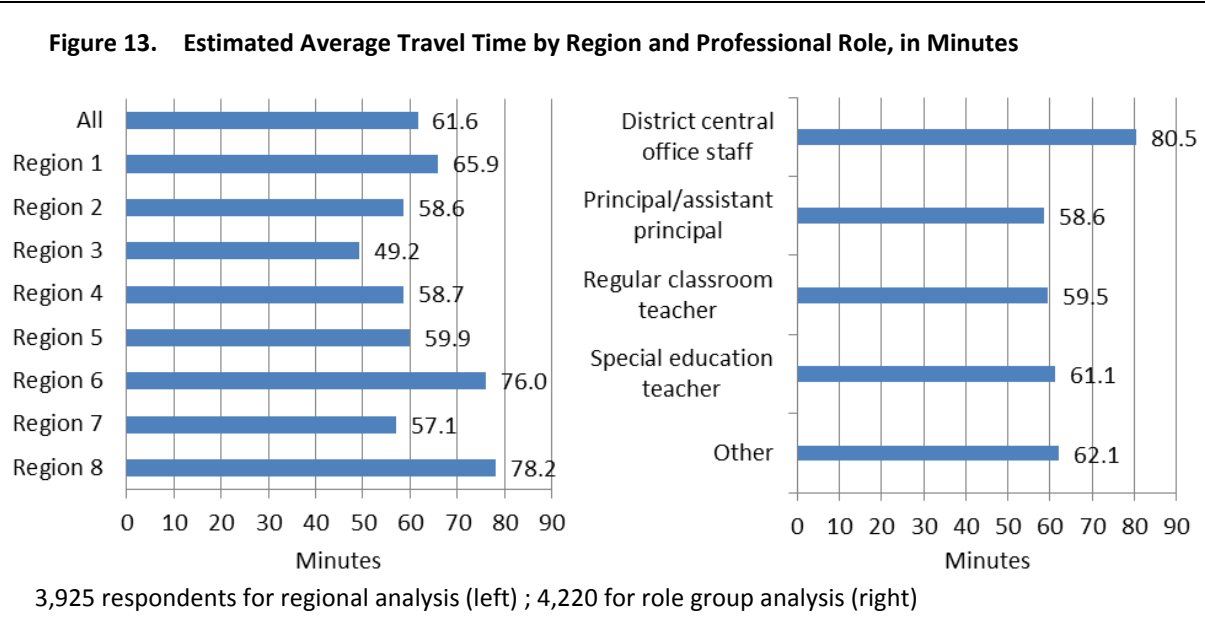
Brooke, Barbour, Wood) and educators from the Institutional Education Programs and WV Schools for the Deaf and Blind had to travel more than an hour.

Looked at another way, we computed estimated travel times for each of the school districts by assigning each travel time category a midpoint value and computing mean travel times for respondents in the sample. For example, the category *Less than 30 minutes*, was assigned the value of 15.5 minutes. One limitation in this approach is that the midpoint for the highest value, *More than 2 hours*, is unknown, so we followed the pattern established in the other categories and assigned it a value equaling the low-point in the category plus 15.5 minutes, or 135.5 minutes. This method likely produced conservative estimates of the average time travelled for some counties. Nevertheless, the results in Figure 12 illustrate the unequal amounts of time educators from some counties must travel for professional development. Educators in Hampshire, Hardy, Mineral, and Monroe counties travelled more



than an hour and a half to attend professional development, compared with educators in Cabell, Calhoun, Kanawha, and Monongalia, who travelled about half that length of time.

We also took a regional look, illustrated in Figure 13. Here it is evident that educators in the northern and eastern panhandles (Regions 6 and 8 respectively) travel about 24% more than average. The rest of the regions travel slightly more or less than the average. As for professional role, district central office staff spent the most time travelling (Figure 13).



The average travel time for the whole sample (nearly 4,000 respondents) was just over an hour (Figure 12). That translates to more than 4,000 person hours just for this sample—which represents only about a fifth of the participants in professional development offered by providers in the PD Master Plan during the 12-month period (June 2011 through May 2012). Extending the average travel time to the whole population of more than 20,000 reported attendees for the whole year (Table 1) accounts for more than 20,000 staff hours.

Respondents by provider

The respondent pool included individuals who were responding to professional development provided by all 18 providers (Figure 14). The reader is reminded that each participant was selected to respond about a single professional development session provided by a single provider. The number of respondents for each provider is fairly well aligned with the proportion of e-mail addresses each one submitted through the Provider PD Session Reports, as shown in Table 8.

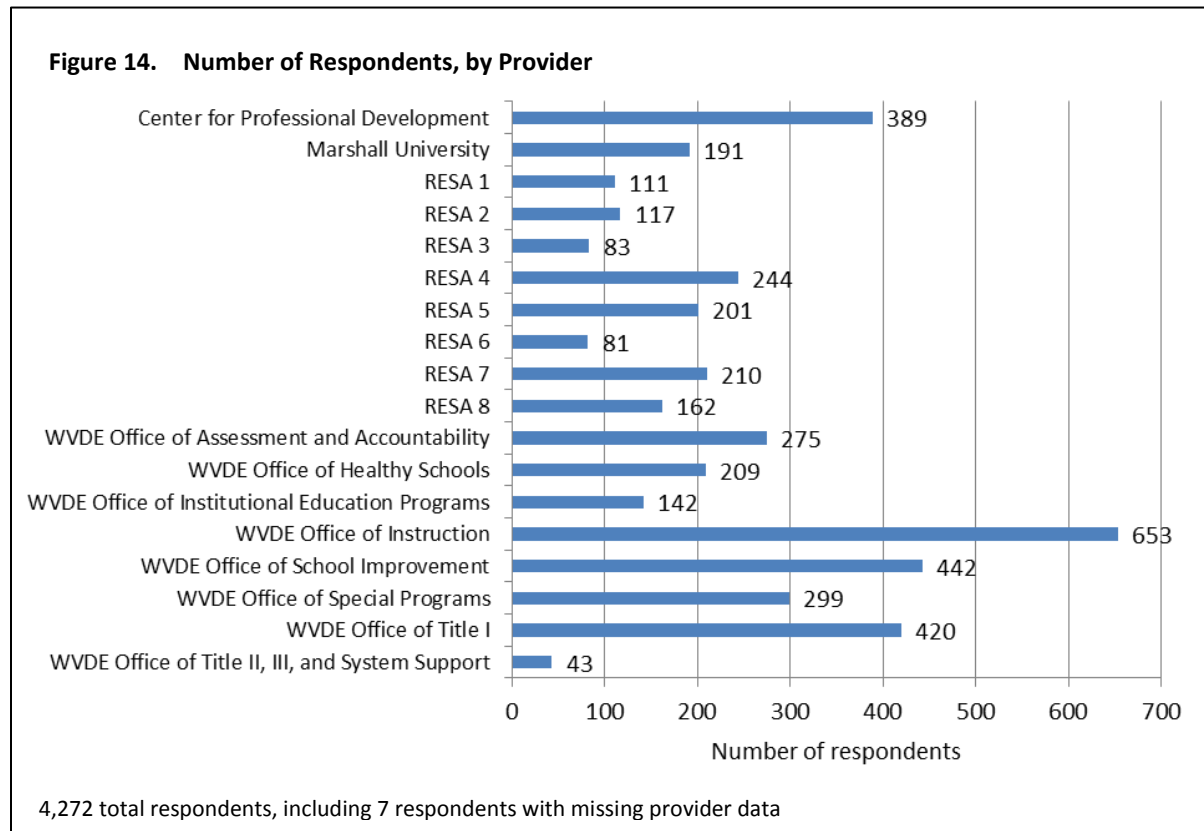


Table 8. Comparison of the Percent of Total E-mail Addresses to Percent of Total Respondents, by Provider

Provider	Number e-mail addresses provided	Number respondents	Percent of total e-mail addresses	Percent of total respondents
Total*	14,725	4,272*	100.0	100.0*
Center for Professional Development	1,086	389	7.4	9.1
Marshall University	793	191	5.4	4.5
RESA 1	315	111	2.1	2.6
RESA 2	305	117	2.1	2.7
RESA 3	186	83	1.3	1.9
RESA 4	747	244	5.1	5.7
RESA 5	477	201	3.2	4.7
RESA 6	196	81	1.3	1.9
RESA 7	536	210	3.6	4.9
RESA 8	386	162	2.6	3.8
WVDE Office of Assessment and Accountability	1,092	275	7.4	6.4
WVDE Office of Healthy Schools	845	209	5.7	4.9
WVDE Office of Institutional Education Programs	399	142	2.7	3.3

Table 8 continues on next page.

Table 8. Comparison of the Percent of Total E-mail Addresses to Percent of Total Respondents, by Provider

Provider	Number e-mail addresses provided	Number respondents	Percent of total e-mail addresses	Percent of total respondents
WVDE Office of Instruction	2,616	653	17.8	15.3
WVDE Office of School Improvement	1,586	442	10.8	10.3
WVDE Office of Special Programs	1,029	299	7.0	7.0
WVDE Office of Title I	2,021	420	13.7	9.8
WVDE Office of Title II, III, and System Support	110	43	0.7	1.0

*Total includes seven cases with missing provider data.

Adherence to research-based practices

Survey respondents were asked to respond to seven items about the extent to which the professional development event they attended adhered to research-based practices for high quality professional development. Respondents were instructed to respond to each statement using a 5-point Likert-type response format, that is, 1 (*strongly disagree*), 2 (*disagree*), 3 (*neutral*), 4 (*agree*), 5 (*strongly agree*). Thus, higher average scores indicate that professional development was perceived to be of higher quality. In addition to examining responses to each item individually, we also calculated an *overall quality index* score by summing each respondent’s ratings for all quality items and dividing the resulting value by the total number of items. This allowed us to examine quality in a more holistic manner across a variety of participant groups.

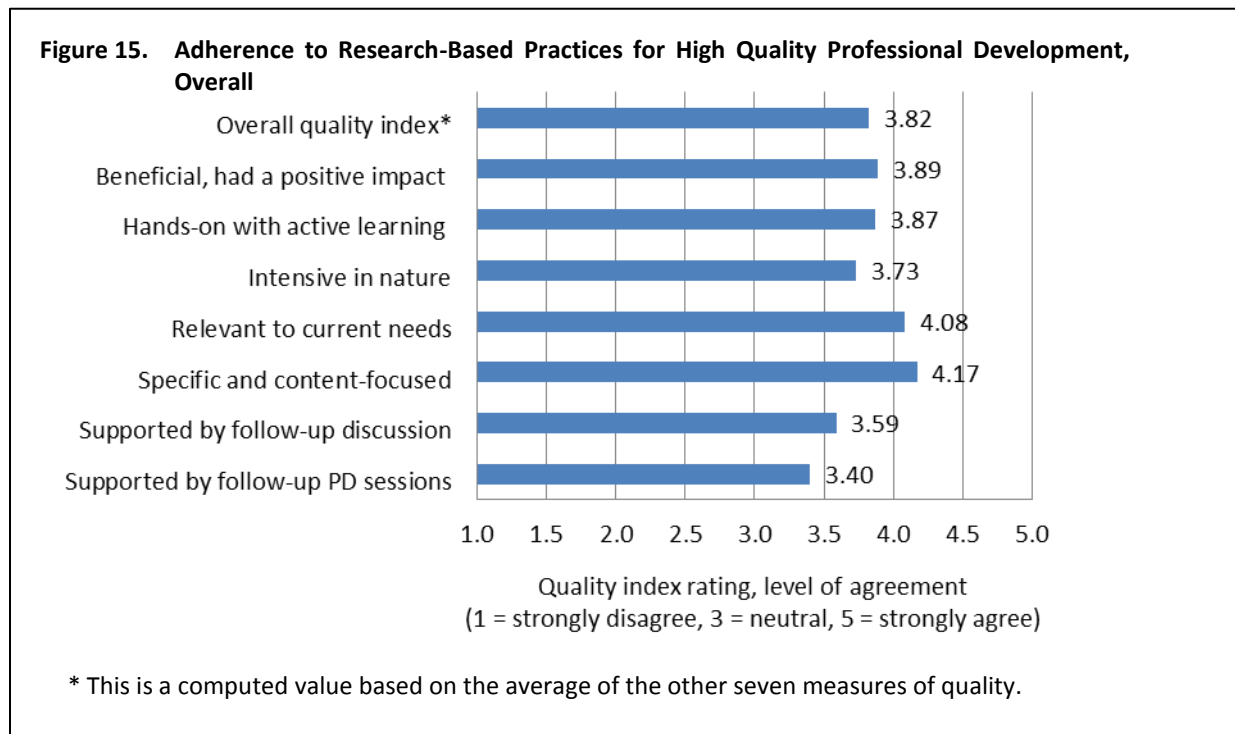
Prior to examining the results, it should be noted that the response format used for these items is most easily interpreted by examining average responses in comparison to some reference point upon the scale. For the purposes of this report, evaluators settled upon the midpoint of the scale (i.e., 3.00) as that point of reference. This is because a rating of 3.00 indicated a *neutral* response. Therefore, any mean score below 3.00 would indicate general disagreement with the item and any mean score above 3.00 would indicate some agreement with the item. It is also useful to conceptualize a mean rating of 4.00 or above as evidence that, overall, participants were in some agreement about a given statement.

Table 9. Adherence to Research-Based Practices for High Quality Professional Development, Overall

<i>The professional development was . . .</i>	N	Mean	SD
Beneficial, had a positive impact	4253	3.89	.909
Hands-on with active learning	4237	3.87	.945
Intensive in nature	4263	3.73	.904
Relevant to current needs	4251	4.08	.868
Specific and content-focused	4247	4.17	.769
Supported by follow-up discussion	4242	3.59	1.052
Supported by follow-up PD sessions	4251	3.40	1.047
Overall Quality Index*	4135	3.82	.711

* This is a computed value based on the average of the other seven measures of quality.

The average quality ratings for each item in the whole sample are presented in Table 9 (above) and Figure 15. The two most highly rated dimensions of quality were *Specific and content focused* and *Relevant to my current needs and circumstances as an educator*. Mean ratings for both of these dimensions fell above a 4, indicating quite strong agreement. The average rating for the extent to which professional development was *Supported by related follow-up PD sessions* was the lowest of all seven dimensions. The rating was slightly above the midpoint of the scale, but indicated only weak agreement. Participants provided a similar average rating regarding the extent to which their professional development experience was *Supported by follow-up discussion or collaboration at our school or office or online*.



When we disaggregated the sample by programmatic level, we found very little variation among the different levels as shown in Figure 16 and in Table A 2 (Appendix F, p. 81). Further, the breakdown for the seven indicators closely followed the breakdown for the total sample shown in Figure 15.

Results were similar when we disaggregated by professional role, that is, there was very little variation among the role groups with regard to the overall quality index rating (Figure 17), although regular classroom teachers and special education teachers reported higher agreement that the professional development they attended included opportunities for hands-on and active learning (Table A 3, Appendix F, p. 81), with ratings of 4.01 and 3.99, respectively.

Figure 16. Mean Overall Quality Index Rating (i.e., Adherence to Research-Based Practices for High Quality Professional Development), by Programmatic Level

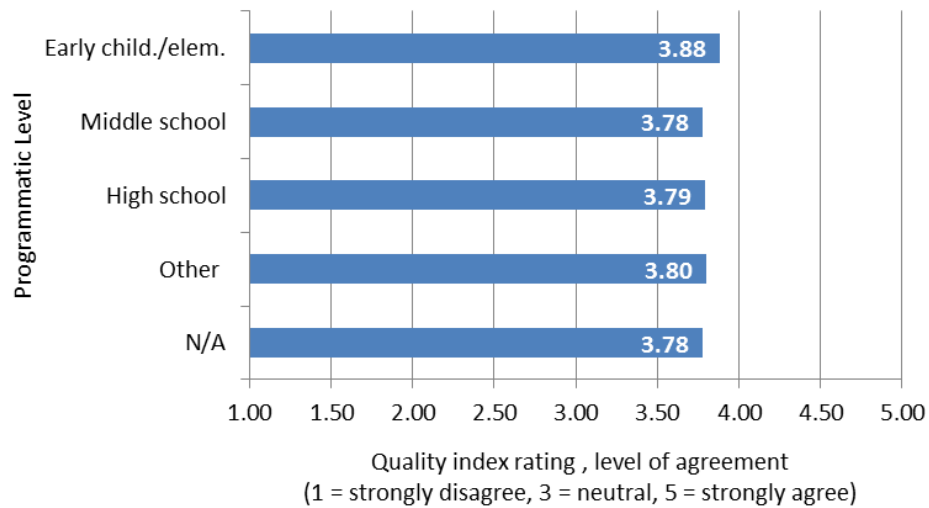
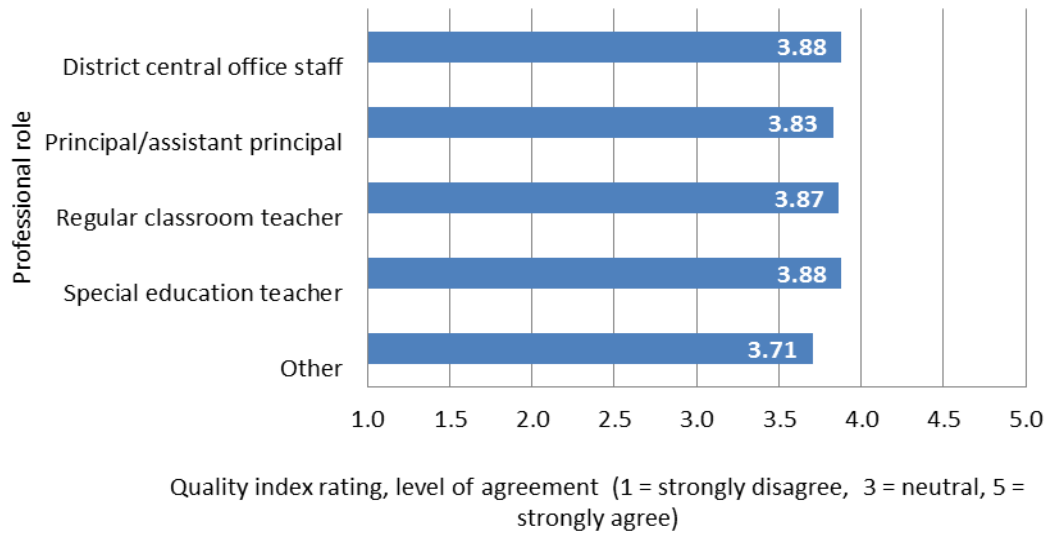


Figure 17. Mean Quality Index Rating for Adherence to Research-Based Practices for High Quality Professional Development, by Professional Role



There was slightly more variation when we disaggregated by content area (Figure 18, p. 30 and Table A 4, Appendix F, p. 82), with physical education and foreign language teachers expressing the highest level of agreement with the seven quality dimensions, overall. Practices that received higher than average ratings, reaching or exceeding *agreement* (≥ 4.00), included the following:

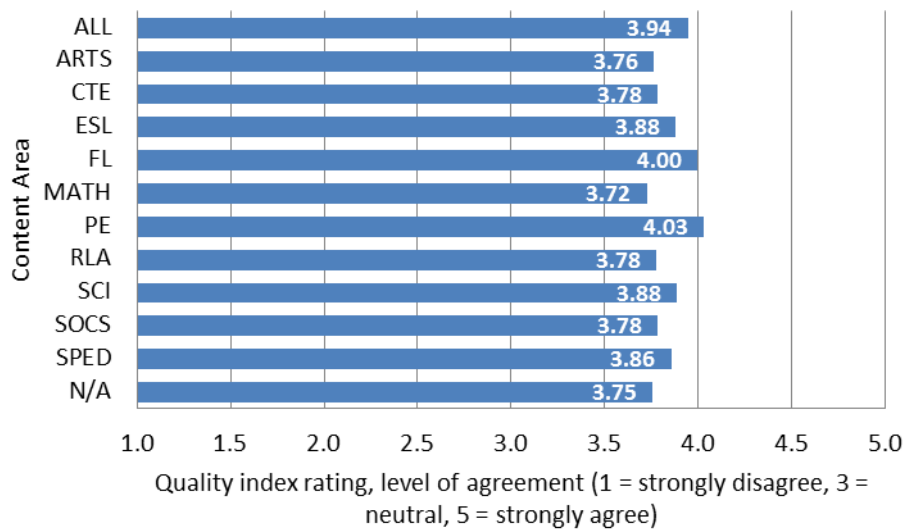
- *Relevant* and *Content-focused* achieved that level across all content areas.

- *Intensive in nature* received higher than average ratings from teachers of English as a second language.
- *Hands-on with active learning* received higher than average ratings from educators involved in all content areas (e.g., elementary grade teachers), and arts, foreign language, physical education, and science teachers.

Practices that received ratings below the mean, falling into the neutral range (i.e., ratings at about 3.4 or below) which may require extra attention from providers included

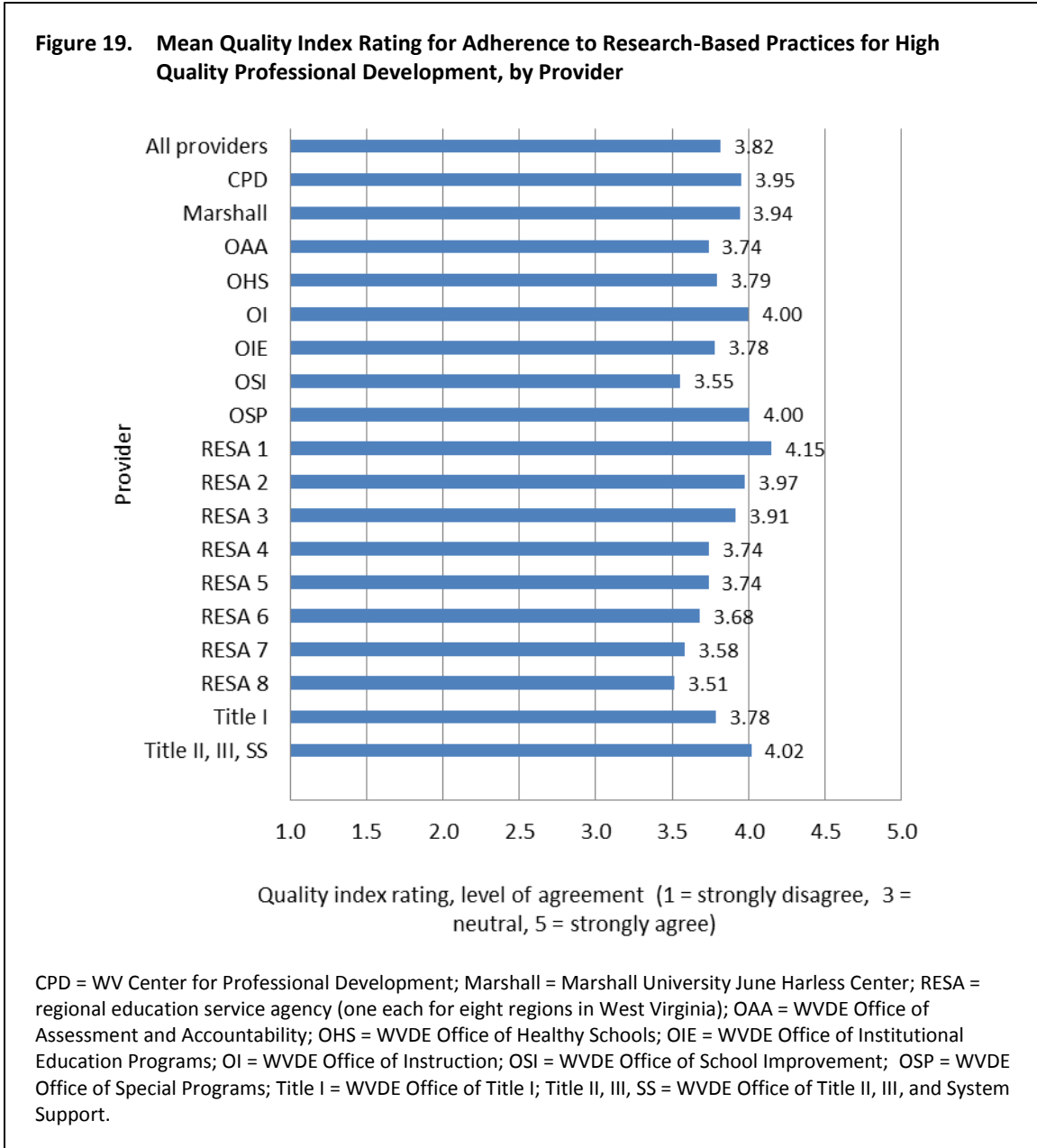
- *Supported by follow-up related professional development* received lower ratings from educators involved in arts, mathematics, reading/language arts, and social studies.
- *Supported by follow-up discussion or collaboration* received lower ratings from mathematics teachers.

Figure 18. Mean Quality Index Rating for Adherence to Research-Based Practices for High Quality Professional Development, by Content Area



ALL = All subject areas (e.g., elementary teacher, support personnel); ARTS = Arts (visual, music, dance, theater, other); CTE = Career/technical education; ESL = English as a second language; FL = Foreign language; MATH = Mathematics; PE = Physical education; RLA = Reading/language arts; SCI = Science; SOCS = Social studies; SPED = Special education; N/A = Not applicable (e.g., administrator or county staff)

The analysis that revealed the greatest degree of variation in the mean overall quality index rating was when we disaggregated the data by provider, although all 18 providers had overall quality index ratings that fell into the general agreement range—that is, respondents tended to agree with statements that the professional development they attended adhered to research-based practices and was beneficial overall (Figure 19). To see individual quality ratings for each provider, see Table A 5, p. 83 in Appendix F.



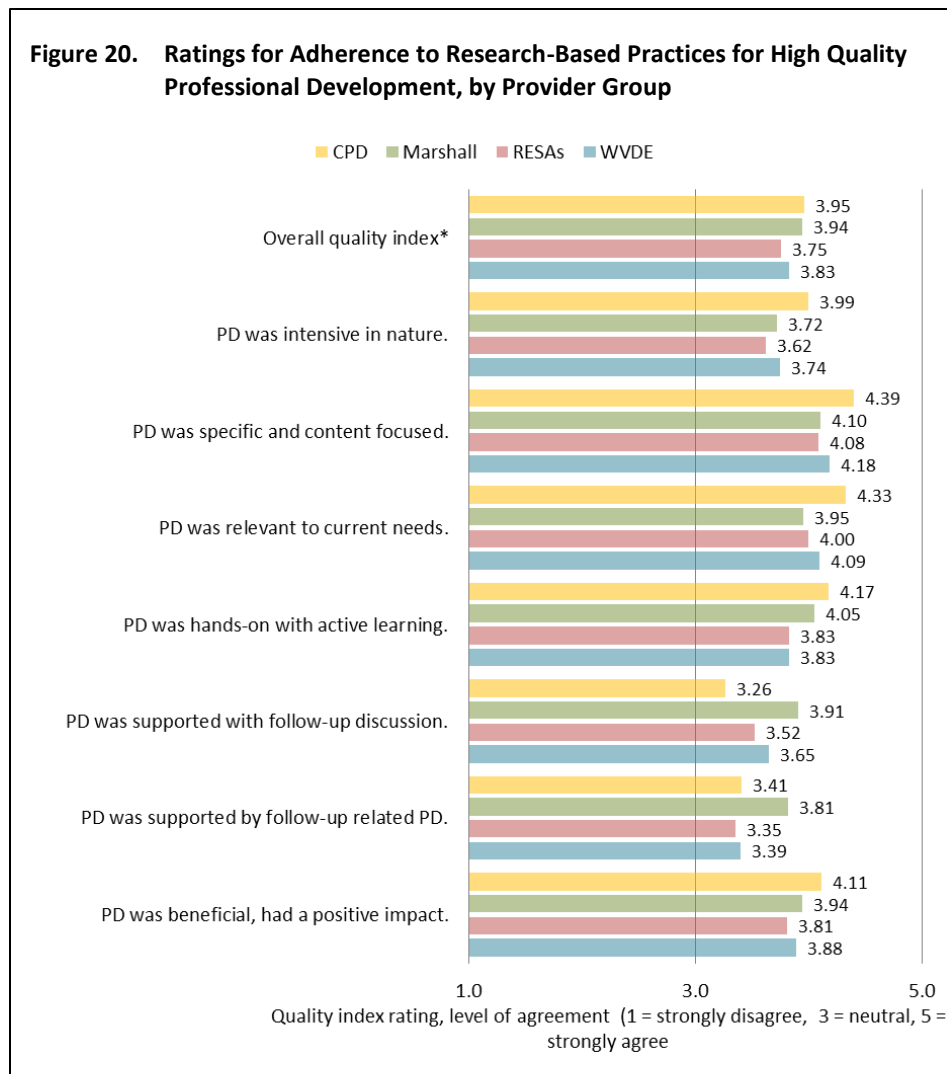
The four providers with the highest ratings were the WVDE Office of Instruction (4.00), WVDE Office of Special Programs (4.00), RESA 1 (4.15), and the WVDE Office of Title II, III, and System Support (4.02).

The providers with the lowest scores were the WVDE Office of School Improvement (3.55), RESA 7 (3.58), and RESA 8 (3.51). These offices may want to focus on the following research-based practices in their future professional development offerings:

- WVDE Office of School Improvement—Supported by follow-up PD sessions (2.93), and Supported by follow-up discussion and collaboration (3.18)
- RESA 7—Supported by follow-up PD sessions (3.08), Supported by follow-up discussion and collaboration (3.35), and Intensive in nature (3.32)
- RESA 8—Supported by follow-up PD sessions (3.00), and Supported by follow-up discussion and collaboration (3.33)

These ratings all fell within the neutral range, with participants, overall, neither agreeing nor disagreeing that the professional development they attended adhered to these practices.

We also analyzed providers by groups—that is, we grouped the RESAs and WVDE offices to see how well these larger groups of providers were perceived by participants as having adhered to research-based practices for professional development. Marshall University and the WV Center for Professional Development did not belong to either group, so their mean ratings are included as individual providers in Figure 20. For six of seven measures, the WV Center for Professional Development had the highest mean ratings, while for an equivalent number, the RESAs, as a group, held the lowest mean rating.



Perceived effectiveness of professional development in meeting Board goals

As noted previously, West Virginia state law §18-2-23a requires the WVBE to establish annual professional development goals for public schools; to coordinate professional development programs; and to guide program development, approval and evaluation. As a reminder, the PD Master Plan for school year 2011–2012 included four goals:

As a result of professional development, participants will . . .

1. deliver standards-based instruction in classrooms to ultimately improve student learning. Such instruction will exhibit an understanding of the Common Core State Standards for English/Language Arts and Mathematics including how the new standards align to the West Virginia 21st Century Content Standards and Objectives.
2. apply their knowledge of the Common Core State Standards into professional practice with specific attention to: (1) addressing writing and text complexity, (2) designing school-wide efforts to improve literacy and numeracy, and (3) ensuring technology and science are integrated into improvement efforts.
3. effectively apply the West Virginia Professional Teaching Standards to ensure that all students in West Virginia are served by high quality educators.
4. exhibit increased leadership and collaboration to facilitate school improvement. (WVBE, 2011, pp. 4-5)

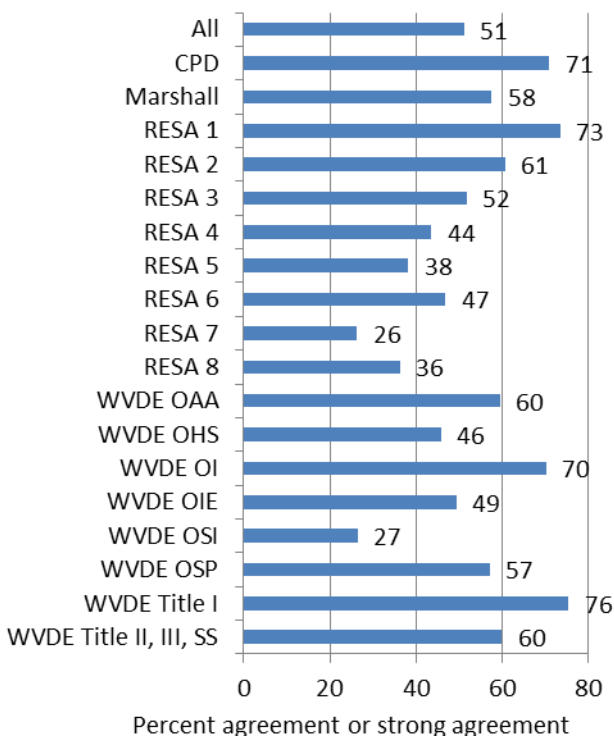
Each professional development session included in the 2011–2012 PD Master Plan was determined by PD providers to be aligned to one or more of the above goals; therefore, as part of the evaluation of the PD Master Plan, we sought to determine the extent to which each PD participant’s professional development experience had helped to meaningfully contribute toward the goal area(s) aligned with the session each one attended.

We used descriptive statistical analyses to examine responses for all events associated with each goal area. First we disaggregated responses into eight datasets:

- three associated with professional development sessions aligned to Goal 1 (standards-based instruction in [a] English/language arts, [b] mathematics, and [c] other content areas);
- three associated with Goal 2 ([a] addressing writing and text complexity, [b] school-wide efforts to improve literacy and numeracy, and [c] integration of technology and science);
- one associated with Goal 3 (applying West Virginia Professional Teaching Standards [WVPTSs]); and
- one associated with Goal 4 (increased leadership and collaboration to facilitate school improvement).

We then analyzed participants' responses for each goal area independently. Respondents were instructed to respond to statements about the professional development using a 5-point Likert-type response format as follows: 1 (*strongly disagree*), 2 (*disagree*), 3 (*neutral*), 4 (*agree*), 5 (*strongly agree*). A sixth category, *not applicable*, was included, and tallied along with the other responses as an indication of the lack of alignment with the goal in question—that is, if the respondent considered the goal in question as not applicable to the session he or she attended, we counted this response as a lack of agreement that the session was helpful in meeting the goal. The full results for each of the providers appear in Table 10, organized by goal. Overall results for each of the providers are found in Figure 21, and a breakdown by provider group is found in Figure 22.

Figure 21. Percentage of Overall Agreement or Strong Agreement that PD was Helpful in Meeting Board Goals, by Provider



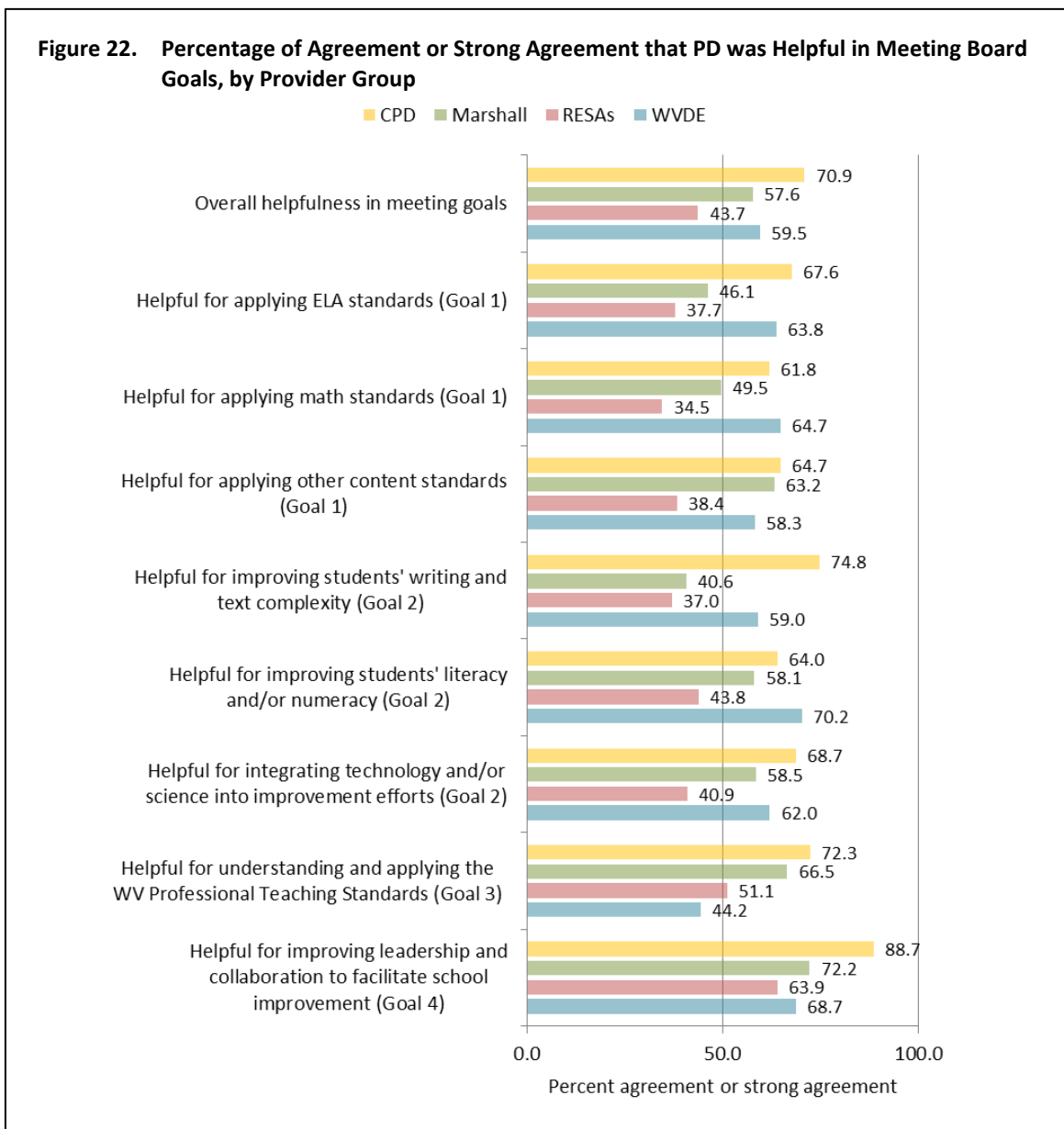
Overall, about half (51.2%) of all respondents agreed that the professional development had been helpful in meeting the provider-designated Board goal or goals for that session. Items and the overall percent of respondents in agreement or strong agreement were as follows (Table 10):

The professional development was helpful to me in—

- Delivering standards-based instruction in English/language arts. (Goal 1, apply ELA standards), 45.1%
- Delivering standards-based instruction in mathematics. (Goal 1, apply math standards), 45.0%
- Delivering standards-based instruction in other content areas. (Goal 1, other content areas), 50.1%
- Improving students' writing and text complexity. (Goal 2, writing/text complexity), 43.5%
- Improving students' literacy and/or numeracy. (Goal 2, literacy/numeracy), 53.7%
- Integrating technology and/or science into improvement efforts. (Goal 2, science/technology), 49.6%

- Understanding and applying the WV Professional Teaching Standards. (Goal 3, apply WVPTSs), 50.0%
- Improving leadership and collaboration to facilitate school improvement. (Goal 4, lead/collaborate), 67.5%

About two-thirds of the time, respondents agreed or strongly agreed that sessions the providers designated as supporting Goal 4 were, in practice, helpful in meeting that goal; none of the sessions focused on the other goals approached this level of agreement, overall, which could be interpreted to mean that their content did not align well with the Board goals they were intended to address. Another possible interpretation is that some providers did not realistically categorize their planned sessions by Board goal during the formulation of the PD Master Plan.



In any case, there was considerable variance among provider groups and individual providers. The large majority of participants who attended professional development offered by some providers agreed or strongly agreed that the session helped them address the provider-designated Board goal, especially the WV Center for Professional Development (71%), RESA 1 (73%), the WVDE Office of Instruction (70%), and the WVDE Office of Title I (76%). On the other hand, other providers' participants did not share that level of agreement that the session had been helpful in addressing the intended Board goal, especially RESA 5 (38%), RESA 7 (26%), RESA 8 (36%), and the WVDE Office of School Improvement (27%). Scores in Table 10 that fell more than 20 percentage points above the mean for that item are marked in green, indicating very strong alignment to goals; those that fell more than 20 percentage points below the mean for that item are marked in red, indicating very weak alignment to goals the professional development was intended to address.

When we aggregated the RESAs and the WVDE offices, both groups included providers that were among the highest and lowest scoring, in terms of aligning their professional development with the Board goals. Overall though, as shown in Figure 22 (p. 35), the RESAs scored the lowest in seven of the eight measures for goal alignment; for six of the eight measures, well under half of participants agreed or strongly agreed that the professional development they attended had been helpful in meeting the goal it was meant to address. The WVDE group's performance was much more varied. For two of the measures, they showed the strongest goal alignment; for four of the measures they were second only to CPD; and for the remaining two, they traded places with the RESAs for weakest and second weakest goal alignment.

Table 10. Percent of Participants Who Agree or Strongly Agree That the Professional Development was Helpful in Meeting the Board Goal Designated by the Provider for the Session, by Provider

Provider	Overall goal helpfulness % agree	Goal 1 apply ELA standards % agree	Goal 1 apply math standards % agree	Goal 1 other content areas % agree	Goal 2 writing/text complexity % agree	Goal 2 literacy/numeracy % agree	Goal 2 science/technology % agree	Goal 3 apply WVPTSs % agree	Goal 4 lead/ collaborate % agree
All Providers	51.2	45.1	45.0	50.1	43.5	53.7	49.6	50.0	67.5
	16,424	1725	1954	1628	1733	2049	2006	2859	2477
CPD	70.9	67.6	61.8	64.7	74.8	64.0	68.7	72.3	88.7
	812	71	55	136	115	114	67	148	106
Marshall	57.6	46.1	49.5	63.2	40.6	58.1	58.5	66.5	72.2
	1,327	102	188	133	155	186	188	188	187
RESA 1	73.5	77.4	56.1	54.8	77.6	77.1	69.2	78.5	84.1
	777	106	107	31	107	105	107	107	107
RESA 2	60.6	56.0	54.8	48.1	52.6	61.7	53.4	71.6	80.2
	864	116	115	54	116	115	116	116	116
RESA 3	51.8	47.6	45.1	55.9	44.4	52.5	56.3	50.0	63.4
	628	82	82	59	81	80	80	82	82
RESA 4	43.7	38.3	38.5	41.0	34.2	47.7	36.9	52.1	59.8
	1,851	240	239	173	240	237	241	240	241

Table 10 continues on next page.

RESA 5	38.3	30.7	29.5	39.2	30.7	37.9	33.7	38.5	65.6
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Table 10. Percent of Participants Who Agree or Strongly Agree That the Professional Development was Helpful in Meeting the Board Goal Designated by the Provider for the Session, by Provider

Provider	Overall goal helpfulness	Goal 1 apply ELA standards	Goal 1 apply math standards	Goal 1 other content areas	Goal 2 writing/text complexity	Goal 2 literacy/numeracy	Goal 2 science/technology	Goal 3 apply WVPTSs	Goal 4 lead/collaborate
	% agree	% agree	% agree	% agree	% agree	% agree	% agree	% agree	% agree
	n	n	n	n	n	n	n	n	n
	1,481	189	190	143	192	190	190	192	195
RESA 6	46.9	38.0	34.2	58.3	41.8	49.4	36.7	62.5	58.8
	603	79	79	48	79	79	79	80	80
RESA 7	26.4	17.1	15.7	20.0	18.7	20.1	32.5	37.6	48.3
	1,638	210	210	175	209	209	206	210	209
RESA 8	36.3	26.9	24.5	31.7	27.7	33.5	32.3	43.9	66.2
	1,150	156	155	60	155	155	155	157	157
OAA	59.6	—	—	—	—	—	—	54.9	64.4
	535	—	—	—	—	—	—	268	267
OHS	45.9	—	—	39.2	—	—	38.0	35.1	68.3
	748	—	—	166	—	—	166	208	208
OIE	49.5	49.4	42.0	47.5	43.1	50.8	59.0	43.1	58.1
	554	81	69	61	72	59	61	58	93
OI	70.3	65.7	73.0	69.0	64.5	72.4	75.2	50.9	71.2
	2,218	248	429	348	211	519	306	53	104
OSI	26.6	—	—	—	—	—	—	22.8	51.8
	429	—	—	—	—	—	—	373	56
OSP	57.1	79.5	8.6	—	—	—	100.0	50.0	66.7
	294	44	35	—	—	—	11	102	102
Title I	75.5	—	—	—	—	—	—	67.1	87.3
	400	—	—	—	—	—	—	234	166
Title II, III, SS	60.0	—	—	61.0	—	—	53.1	64.3	—
	115	—	—	41	—	—	32	42	—

CPD = WV Center for Professional Development; Marshall = Marshall University June Harless Center; RESA = regional education service agency (one each for eight regions in West Virginia); OAA = WVDE Office of Assessment and Accountability; OHS = WVDE Office of Healthy Schools; OIE = WVDE Office of Institutional Education Programs; OI = WVDE Office of Instruction; OSI = WVDE Office of School Improvement; OSP = WVDE Office of Special Programs; Title I = WVDE Office of Title I; Title II, III, SS = WVDE Office of Title II, III, and System Support.

NOTE: Scores that fell more than 20 percentage points above the mean for that item are marked in green, indicating very strong alignment to goals; those that fell more than 20 percentage points below the mean for that item are marked in red, indicating very weak alignment

Perceived impact of professional development

The survey contained three pairs of items that asked respondents to use a 4-point Likert-type scale (1 [*not at all*], 2 [*to a small extent*], 3 [*to a moderate extent*], 4 [*to a great extent*]), to rate the extent to which they agreed with statements about themselves both before and after having participated in the professional development session they attended, as follows:

- Pair 1. Before participating in this PD, to what extent were you knowledgeable about the topic it covered?
After participating in this PD, to what extent are you knowledgeable about the topic it covered?
- Pair 2. Before participating in this PD, to what extent did you practice behaviors or skills it taught?
After participating in this PD, to what extent do you practice behaviors or skills it taught?
- Pair 3. Before participating in this PD, to what extent did you hold attitudes/beliefs it encouraged?
After participating in this PD, to what extent do you hold attitudes/beliefs it encouraged?

A fifth response category was included, but only used to allow respondents to indicate the item was *not applicable* to them. These responses were not used when calculating mean scores.

We used a retrospective pretest/posttest design to assess the extent to which survey respondents perceived a change in their own knowledge, behaviors, and beliefs and attitudes as a result of participating in professional development. A series of paired-samples *t* tests were conducted using respondents' pre- and post-ratings. These analyses tested for statistically significant differences between respondents' pre- and post-ratings, with time as the independent variable. When statistically significant differences were found (i.e., $p < .05$), it is reasonable to say that the difference observed between participants' pre- and posttest results are not likely to be due to chance. That is, there is some systematic reason underlying the difference. This analysis does not allow one to infer a cause for the difference. It merely describes the presence of a significant difference.

One limitation of significance testing is that it tells us very little about the magnitude of any observed differences. We detect a difference, but cannot tell from the *t* test if the difference is meaningful in a practical sense. Calculating an *effect size* is one way to explain the magnitude of any statistically significant differences. In this study, we used Cohen's *d* as a measure of effect size. This statistic is commonly used in simple pretest/posttest designs, although its interpretation is often debated in social sciences (see the Limitations of the Study section, p. 50, for more about this debate).

The guidelines we used for interpreting the meaning of the effect sizes in this study are found in Table 11. Paired-samples *t* tests were conducted for three impact items: (1) knowledge about the topic of professional development, (2) use of behaviors and skills related to the topic, and (3) presence of attitudes/beliefs advocated by the professional development.

Table 11. Interpretation of Effect Size Estimates Used in this Study

Value for Cohen's <i>d</i>	Interpretation
Less than .4	Small effect
.4 to .7	Moderate effect
.8 or 1.1	Large effect
1.2 and above	Very large effect

Results for total sample

The tests returned statistically significant differences for all three areas ($p < .000$). In all cases, survey respondents rated themselves higher after participating in professional development than before participating (Figure 23). Effect size estimates revealed overall large effect sizes for knowledge ($d = 1.00$), moderate effect sizes for behavior ($d = .65$), and a weak effect for attitudes ($d = .32$). In other words, participants indicated greater knowledge after having participating in professional development, reported engaging in more behavior related to the PD they attended, and holding slightly different attitudes and beliefs about the topic areas addressed by the professional development (Table 12).

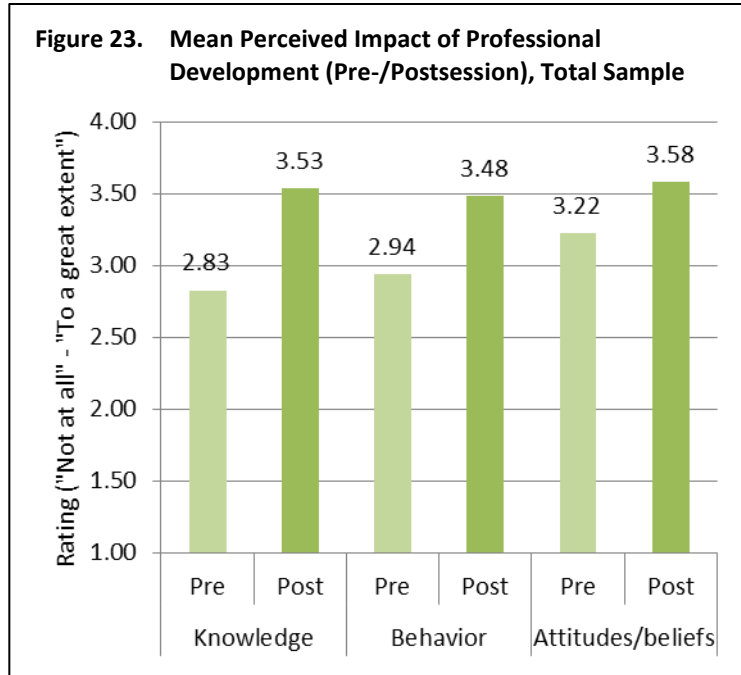
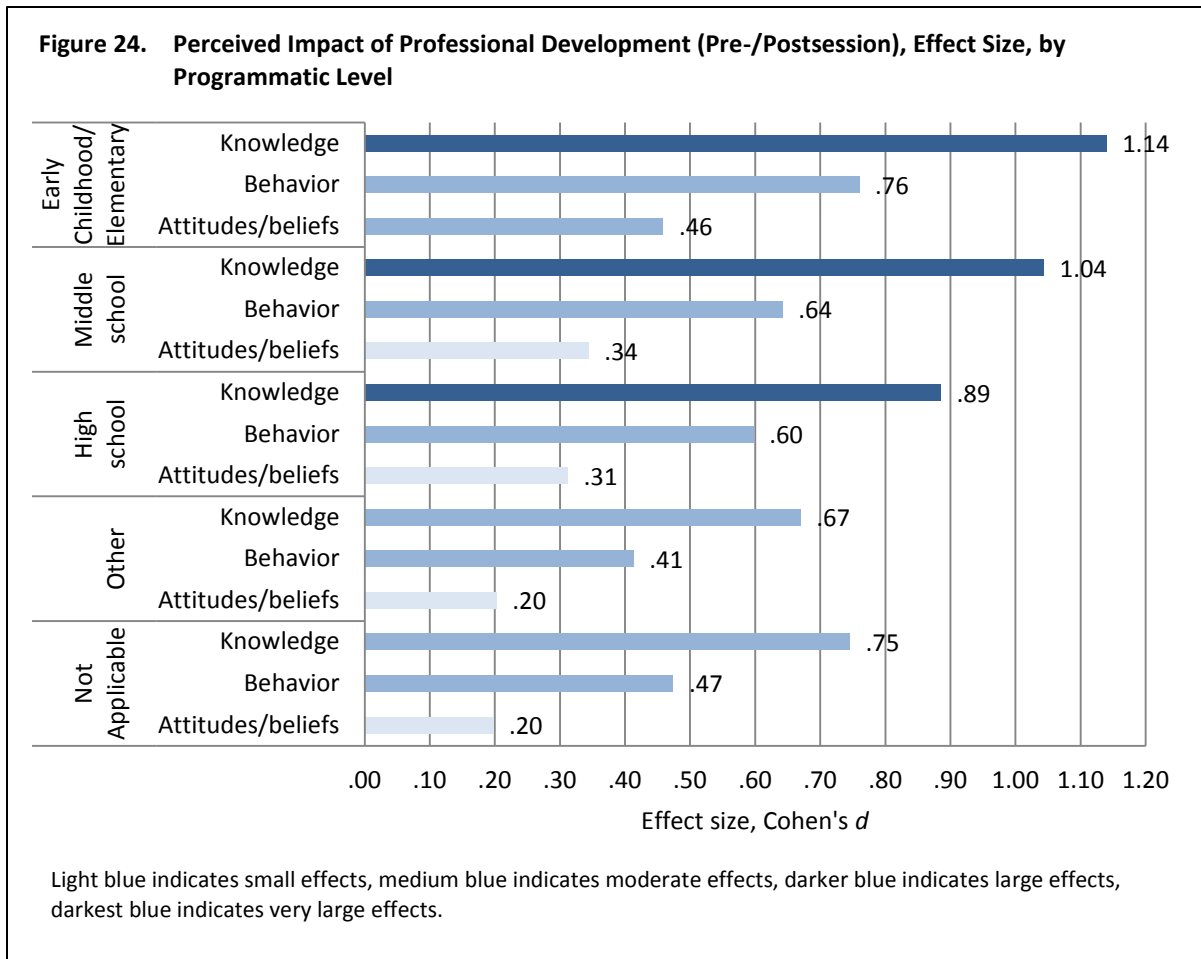


Table 12. Paired-Samples T Test of Perceived Impacts for Whole Sample

Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	t	Significance	n	Effect size (Cohen's d)
Knowledge	.709	.747	.012	58.995	.000	4077	1.00
Behavior	.546	.704	.011	46.524	.000	3858	.65
Attitudes/beliefs	.362	.638	.010	34.195	.000	3808	.32

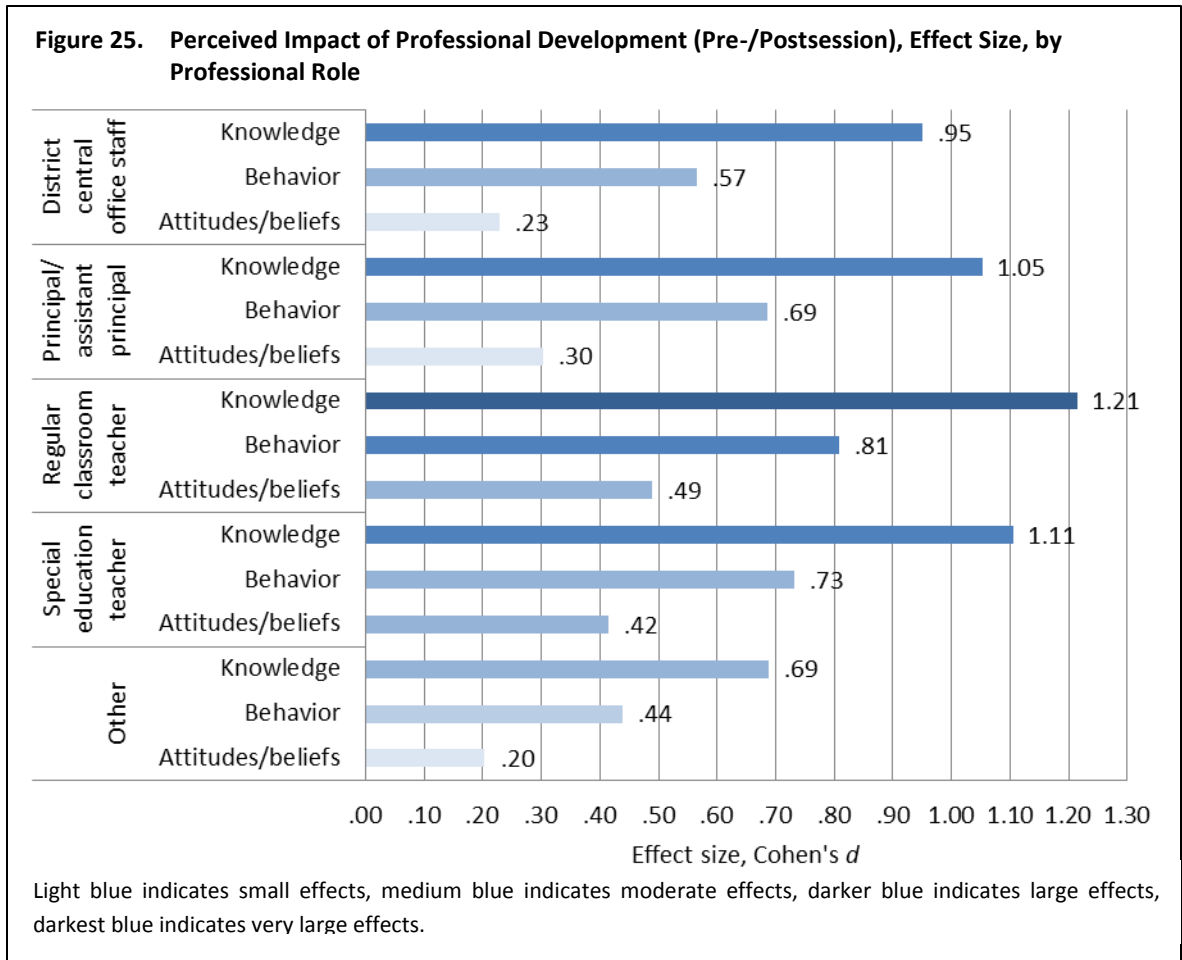
Results by programmatic level

We disaggregated results for the perceived impact of the professional development by programmatic level—that is for early childhood/elementary school (1,663 to 1,763 responses, depending on the item), middle school (949 to 1,004 responses), high school (1,218 to 1,304 responses), a category for those in WVDE or district central offices (*not applicable*, 225 to 262 responses), and an *other* category (264 to 295 responses). Tests returned statistically significant differences for all programmatic levels, for all three self-assessments ($p \leq .001$). In all cases, participants rated themselves higher after participating in professional development than before participating. For knowledge, effect size estimates revealed moderate effects for the *other* and *not applicable* categories and large effect sizes for the three programmatic levels. For behavior, moderate effects were observed across all categories and programmatic levels; while for attitudes/beliefs, weak effects were observed for all but early childhood/elementary responses, who exhibited moderate effects for the professional development (Table A 6 in Appendix F, p. 85, Figure 24).



Results by professional role

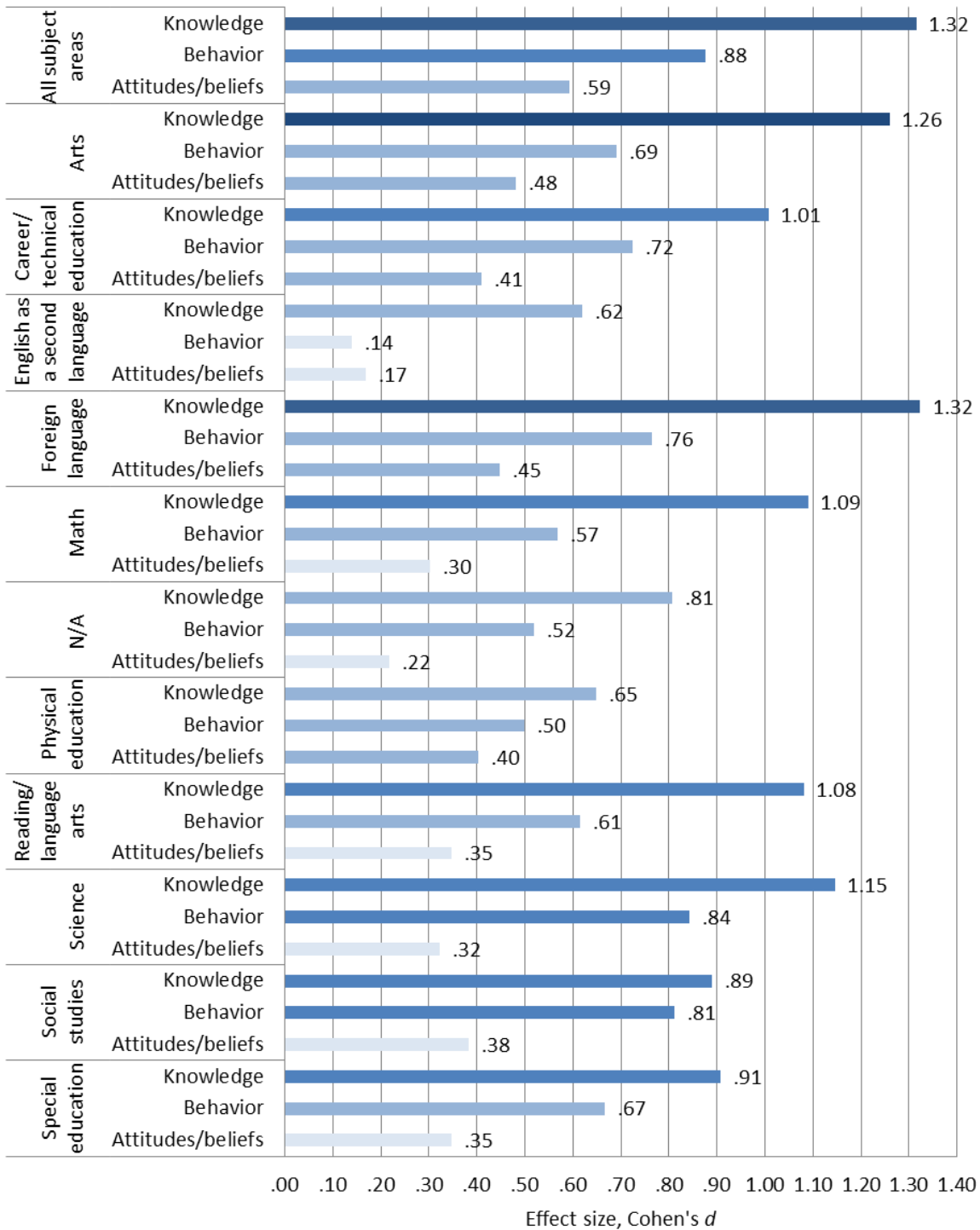
We disaggregated results for the perceived impact of the professional development by professional role—that is for district central office staff (356 to 407 responses), principal/assistant principal (374 to 405 responses), regular classroom teachers (1,683 to 1,752 responses), special education teachers (392 to 413 responses), and an *other* category (1,003 to 1,100 responses). Tests returned statistically significant differences for all professional role groups, for all three areas ($p < .000$). In all cases, participants rated themselves higher after participating in professional development than before participating. For knowledge, effect size estimates were large for all role groups except regular classroom teachers, which showed a very large effect, and *other*, which showed a moderate effect. For behavior, moderate effects were observed across all role groups except regular classroom teachers, which had a large effect size; and for attitudes/beliefs, small effects were realized for administrators and the *other* category, while the two teacher categories exhibited moderate effects (Table A 7 in Appendix F, p. 85, Figure 25).



Results by content area

We disaggregated results for the perceived impact of the professional development by content area (see Table A 8 in Appendix F, p. 86 for number of responses and other statistics). Tests returned statistically significant differences for all content areas, for all three measures ($p \leq .05$) with the exception of English as a second language (ESL), which had a small number of responses (14 to 15) and did not achieve statistical significance for attitudes/beliefs or behavior (these results must be treated cautiously). In all cases, participants rated themselves higher after participating in professional development than before participating. For knowledge, effect size estimates were large or very large for all role groups except ESL, not applicable, and physical education which showed moderate effects. For behavior, large effect sizes were observed for all subject areas (i.e., elementary school teaching), science, and social studies; while all other content areas saw moderate effects for behavior, except ELS, which saw small effects. Seven of the 12 content areas saw small effects for attitudes/beliefs (ESL, mathematics, not applicable, reading/language arts, science, social studies, and special education), while the other five content areas saw moderate effects (Figure 26).

Figure 26. Perceived Impact of Professional Development (Pre-/Postsession), Effect Size, by Content Area

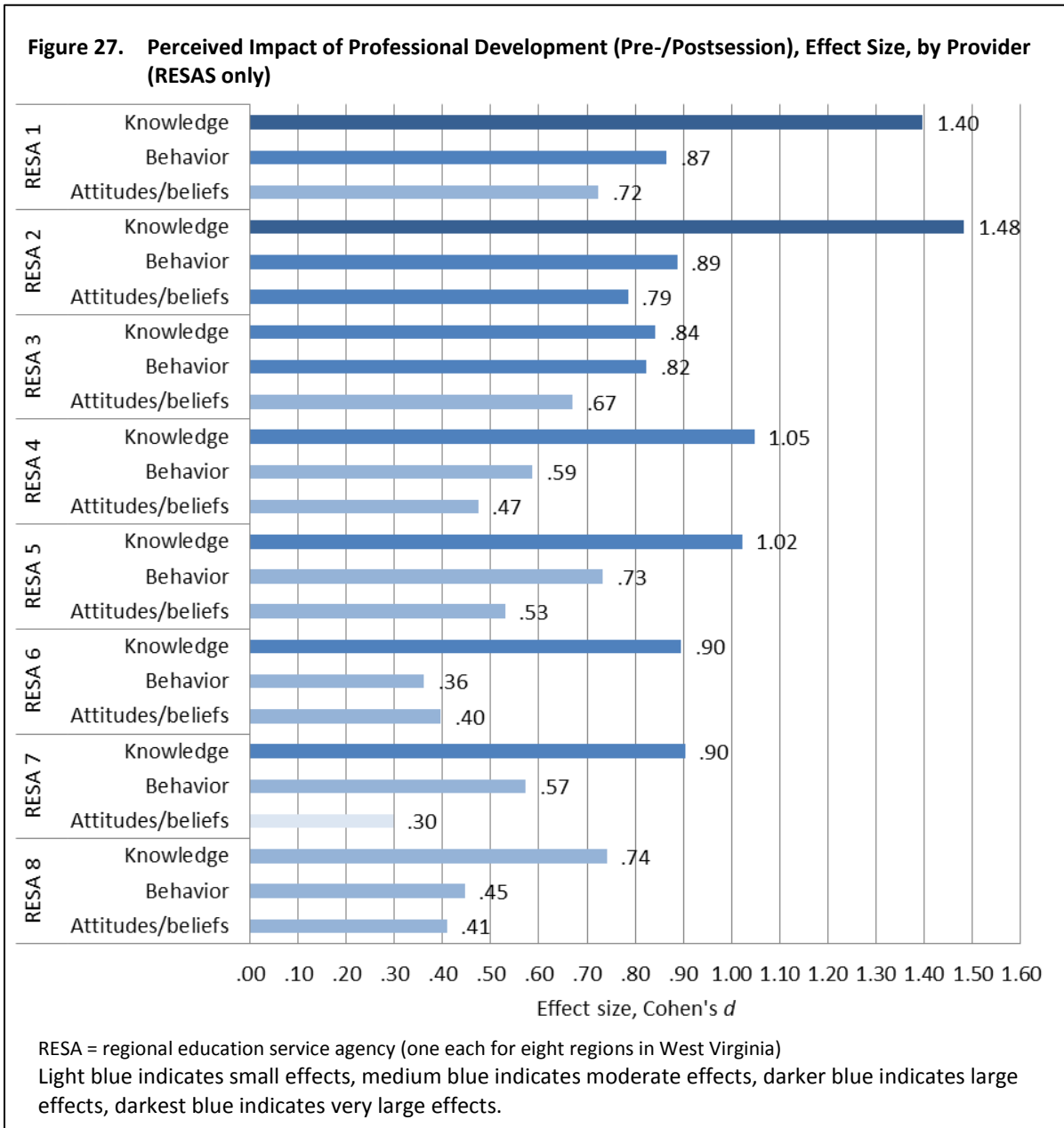


Light blue indicates small effects, medium blue indicates moderate effects, darker blue indicates large effects, darkest blue indicates very large effects.

Results by provider

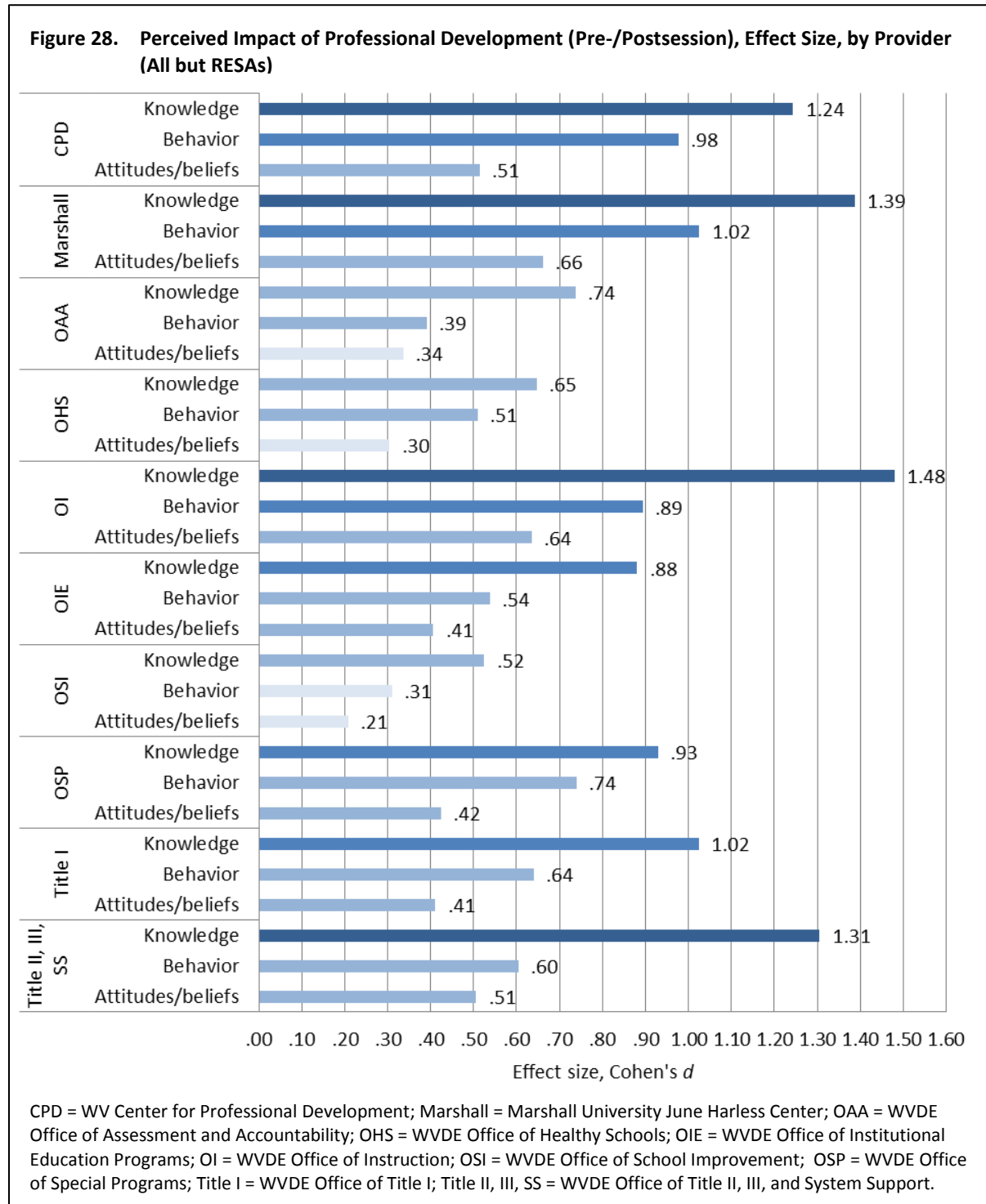
Lastly, we disaggregated results for the perceived impact of the professional development by provider (see Table A 9 in Appendix F, p. 87). Tests returned statistically significant differences for all providers, for all three areas ($p < .000$). In all cases, participants rated themselves higher after participating in professional development than before participating.

Figure 27 and Figure 28 show that for knowledge, effect size estimates were very large for RESAs 1 and 2, the West Virginia Center for Professional Development, the Marshall University June Harless Center, the WVDE Office of Instruction, and the Office of Title II, III, and System Support. Effect sizes for knowledge were large for RESAs 3, 4, 5, 6, and 7, and the WVDE Offices of Institutional Education, Special Programs, and Title I. Effect sizes



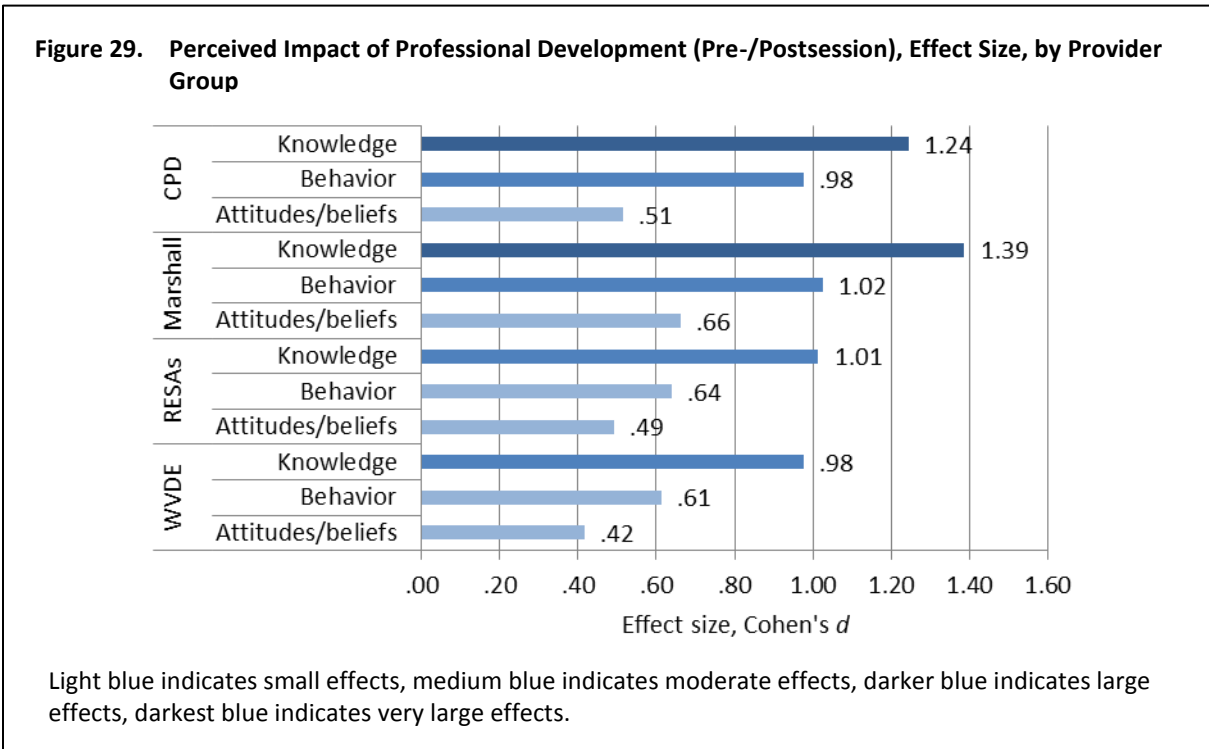
for knowledge were moderate for RESA 8 and the WVDE Offices of Assessment and Accountability, Healthy Schools, and School Improvement.

Some providers also achieved large effects in behavior, including the Center for Professional Development, Marshall University June Harless Center, RESAs 1, 2, and 3, and the WVDE Office of Instruction. All the rest achieved moderate effects in behavior except the



WVDE Office of School Improvement, which saw a small effect. As in the other disaggregations and the overall sample, attitudes/beliefs saw the smallest effects. Yet, all but four providers (RESA 7, WVDE Office of Assessment and Accountability, Office of Healthy Schools, and Office of School Improvement) achieved moderate effects in this domain, while the four remaining achieved a small effect.

When aggregating by group, both the RESAs and the WVDE offices provided professional development that participants, overall, perceived as having large effects, while both groups obtained moderate effects for behavior and attitudes/beliefs. There was, as described above, quite a lot of variance within those groups, however.



Discussion

We set out to address the following aspects of the implementation of the 2011-2012 Master Plan for Professional Staff Development (PD Master Plan): (a) implementation of planned sessions; (b) participant perceptions about the sessions' adherence to research-based practices for high quality professional development; (c) participant perceptions about the sessions' helpfulness with regard to the specific goals of the PD Master Plan; and (d) participants perceived (self-reported) outcomes resulting from their involvement in professional development associated with the PD Master Plan. After the discussion of findings for each of these topics, we provide observations about the formation of the plan, itself.

Implementation of Planned Sessions

Overall, implementation of planned sessions was down slightly from the level seen in 2010-2011—77.5% compared with 80.0% last year. The most prevalent reasons were a lack of requests/registrations and scheduling issues. Five sessions were cancelled to avoid a duplication of effort.

Attendance was down nearly 42% from last year. Most of this drop in attendance—in fact, 83% of it—was attributable to the lower attendance numbers reported by the RESAs, which declined from 17,508 in 2010-2011 to 4,657 participants in 2011-2012. CPD and IHES also saw lower attendance, while WVDE providers' attendance was slightly up.

Top providers in terms of attendance were all from WVDE, including the Office of Instruction (3,995), Office of Special Programs (3,958), and the Office of Title I (2,700).

The WVBE's Goals for Professional Development were all well covered, with a minimum of about 6,900 participants attending sessions focused on each of the goals.

Face-to-face sessions far outflanked other meeting formats at 90%, followed by sessions that blended formats at 9%.

CPD had the highest average duration for its professional development sessions—45 hours, with a mean time span of 50 days. Six providers had average durations in hours for their professional development that indicated they typically offer sustained professional development (i.e., 14 hours or more), which research shows is the minimum required to effect improvement in student achievement (Yoon, et al., 2007).

Sessions offered in a blended format tended to have the longest duration (average 17.5 hours).

There were five county locales where no professional development offered through the PD Master Plan took place (Barbour, Monroe, Pleasants, Ritchie, and Taylor), although educators from these counties did attend professional development offered in other locales.

This study estimates that the average travel time to professional development provided by the 18 offices and organizations covered in this report was about 61 minutes, or slightly over an hour. When this estimate is projected to the more than 20,000 attendees in sessions held during the 12-month period from June 2011 through May 2012, we estimate

that more than 20,000 staff hours were spent just travelling. Further, the burden of travel is not equally shared. We estimate that educators in some counties travel well over 60 minutes each way to attend professional development; educators in Hampshire, Hardy, Mineral, and Monroe counties travelled at least half again the average, and twice as much as their counterparts in Cabell, Calhoun, Kanawha, and Monongalia. No doubt some of this travel is unavoidable, but perhaps not all of it. Reducing travel time by using online or other formats could allow educators to redirect time spent travelling, allowing more time for other activities that would benefit students.

Use of Research-Based Practices

Overall, the strongest ratings in terms of the use of research-based practices were given to the relevance and specificity (content-focus) of the professional development. The weakest ratings were for the two follow-up items—that is, follow-up discussion and collaboration, and related follow-up professional development. These two dimensions may warrant attention, and may well receive it with the focus on providing more sustained professional development in the current (2012-2013) PD Master Plan.

Results were similar when we disaggregated by professional role and by programmatic level, that is, there was very little variation among the role groups and programmatic levels with regard to the overall quality index rating, which ranged from 3.7 to 3.9 on a 5-point scale (1 [strongly disagree], 3 [neutral], and 5 [strongly agree])—indicating a moderate level of agreement that the professional development they attended adhered to research-based practices for high quality professional development.

There was slightly more variation (3.7 to 4.0) when we disaggregated by content area, with physical education and foreign language teachers expressing the highest level of agreement.

The greatest degree of variation in the mean quality index rating was among providers, although all 18 providers had ratings that fell into the general agreement range—that is, respondents tended to agree with statements that the professional development they attended adhered to research-based practices and was beneficial overall. However, there were six providers that scored at 4.0 or above, including CPD; RESAs 1 and 2; and WVDE’s Office of Instruction, Office of Special Programs, and Office of Title II, III, System Support. The lowest scoring providers were RESA 7 (3.58), RESA 8 (3.51), and the WVDE Office of School Improvement (3.55).

Perceived Effectiveness in Addressing the Board’s Goals

For this measure, we selected respondents who attended sessions that providers had indicated were aligned with particular Board goals for professional development, and checked to what extent these respondents agreed that the professional development had been helpful in meeting that goal. With few exceptions—that is, CPD, RESA 1, and the Office of Title I—there is much room for improvement when it comes to respondents’ perceptions about alignment of the professional development they received with the goal it was meant to address. It is unknown why some providers had such consistently low alignment scores, with

only about a quarter to just over a third of individual respondents agreeing that the session they attended addressed the goal it was intended to support. In the case of the RESAs, some of the lack of alignment may be due to the approach they used in submitting nonspecific session titles—each of which they designated as aligning with several goals—and then reporting multiple sessions under each, some of which may or may not have aligned well with the goals. However, RESA 1 did not seem to fall into that pattern, which could indicate that RESA 1 truly focused very sharply on the Board goals—especially goals related to English/language arts, writing, and literacy and numeracy skills, as well as on applying WV Professional Teaching Standards, and leadership skills to improve schools. Another possible explanation is that RESA 1 reported only their goal-aligned professional development through the PD Master Plan reporting system and refrained from reporting other nonaligned sessions.

With only 51.2% of respondents, overall, in agreement that the sessions they attended aligned well with the Board goals they were intended to support, goal alignment is clearly an area that most providers could focus on improving. The 2012-2013 PD Master Plan evaluation may see some improvement in this measure, as providers were restricted to indicating only one primary goal for each of the sessions they included in the PD Master Plan, and they were required to submit specific titles indicating specific content.

Perceived Impacts on Knowledge, Behavior, and Attitudes/Beliefs

In three paired self-reported pre-/posttest items, participants indicated greater knowledge after having participated in professional development, reported engaging in more behavior related to the PD they attended, and holding attitudes and beliefs slightly more aligned to those supported by the professional development. T tests returned statistically significant differences for all three areas ($p < .000$). In nearly all disaggregations, professional development was perceived by participants to have had its greatest impact on their knowledge and least impact on their attitudes and beliefs. This pattern held true whether we disaggregated by programmatic level, professional role, content area, or provider. Overall, perceived impacts were

- Highest for early childhood/elementary participants and lowest for respondents who indicated they were in the *other* programmatic group;
- Highest for regular classroom teachers and lowest for respondents who indicated they were in the *other* role group;
- Highest for educators involved in all subject areas (i.e., elementary education), followed by foreign language teachers; and lowest for those indicating they were not teaching in a content area (N/A) and those teaching English as a second language⁸; and
- Highest for respondents who attended professional development offered by RESA 1, RESA 2, and WVDE Office of Instruction; and lowest for professional development offered by RESA 8, and WVDE's Office of Assessment and Accountability, Office of Healthy Schools, and Office of School Improvement.

⁸ The sample was very small for this group and this was the only group for which the *t* test returned insignificant results, so this result should be used with caution.

Formation of the 2011-2012 PD Master Plan

Participation of institutions of higher education

Language in West Virginia Code (§18-2-23a), which defines the Board of Education's role in coordinating professional development, calls for the Board "To ensure that the expertise and experience of state institutions of higher education with teacher preparation programs are included in developing and implementing professional development programs." The reduction in participation by IHEs from two institutions (Fairmont State University and Marshall University) in 2010-2011 to only one (Marshall University) in 2011-2012 is notable, and indicates an area that needs attention if the statute is to be fully implemented. Ten public IHEs in West Virginia with teacher preparation programs did not participate in the 2011-2012 plan, including Bluefield State College, Concord University, Fairmont State University, Glenville State College, Salem University, Shepherd University, West Liberty State College, West Virginia State University, West Virginia University, and West Virginia University-Parkersburg. Participation by Marshall University was limited to staff from the June Harless Center.

Participation of WV Department of Education offices

The lack of participation by several offices within the West Virginia Department of Education, including two that participated in 2010-2011, was also notable for 2011-2012. The Board and the WV Center for Professional Development (which is responsible for putting together the plan) did address this issue during the formation of the 2012-2013 PD Master Plan, and as a result, the new plan includes all offices that provide professional development to teachers, administrators, and other school and district staff.

Participation of regional education service agencies

The 2010-2011 PD Master Plan was the first one for which the Office of Research provided the evaluation. For that Plan, the RESAs submitted the same eight broad session descriptions, under which they individually submitted a large number and wide variety of professional development sessions. Subsequently, when we conducted the participant survey, we asked participants to respond to questions about a specific professional development event using the original nonspecific session descriptions. This led to some confusion. Because the cycle for putting together the PD Master Plan requires formation and approval of the new plan before the evaluation of the previous plan is available, we were not able to relay this dilemma to the Center for Professional Development and WVBE PD committee, which would have allowed them to make adjustments to RESA input into the 2011-2012 PD Master Plan. Consequently, we were faced with another PD Master Plan to evaluate with nonspecific RESA session titles during 2011-2012. We dealt with the issue by allowing RESAs to submit more specific session titles along with the e-mail addresses of participants in their provider reports throughout the year. While this procedure reduced the confusion among participants regarding which specific PD sessions we were asking them about when we surveyed them, it also introduced bias into the study. In essence, RESAs were allowed to submit placeholder titles, and then develop actual titles later in the year, unlike the other 10 providers, who had to submit a specific plan at the outset.

During the formation of the 2012-2013 plan the RESAs, once again, submitted a small set of nonspecific session titles. Their argument in support of this approach was based on their need to be responsive to the districts in each of their regions, and their inability to predict what those districts would include in their strategic plans. RESA representatives at the December 2011 WVBE PD Committee meeting and the February 2012 State Professional Development Advisory Committee Meeting indicated that district strategic plans form the basis of the RESAs' annual strategic plans for professional development, which are due on October 1 each fall. WVBE Policy 3233 outlines a criteria for developing those strategic plans, including

(1) direction from the State Superintendent; (2) findings from five-year strategic plans of low-performing schools in member county systems; (3) findings for member districts from reviews of accountability reports from the Office of Education Performance Audits (hereinafter OEPA); (4) requests from superintendents of low-performing schools; and (5) any other findings considered appropriate by the RESA executive director for planning programs and services that address the needs of member county systems and that are consistent with and support WVBE initiatives (p. 8).

To further investigate this issue, we reviewed the professional development portions of all eight RESA strategic plans submitted on October 1, 2011, and found most of them to be quite detailed in the area of professional development, listing specific titles for workshops, seminar series, online courses, and so forth. In some cases, there were rich descriptions of objectives and action plans from which professional development session titles could readily be developed.⁹ There were other notable patterns, as well:

- There was diversity among the plans, even while some plans shared commonalities. This diversity in professional development plans will continue to be difficult to capture and evaluate if RESAs participate in the PD Master Plan as a single entity or submit a single slate of professional development offerings.
- Many of the plans showed some alignment with the Board goals, offering professional development in
 - 21st Century Content Standards and Objectives, although not necessarily mentioning the new Common Core State Standards for English/language arts and mathematics (Goal 1);
 - Technology integration, such as the use of whiteboards, e-instruction, College Foundation Web Portal, and so forth (Goal 2); and
 - Leadership training, especially in the use of various assessment strategies (e.g., Instructional Practices Inventory (IPI), progress monitoring, school profile development) and new administrator mentoring and other new administrator seminars and professional learning series.

⁹ In only one case did the strategic plan lack information about professional development geared toward K-12 teachers, administrators, and counselors, focusing only on pre-K and public service training.

- Although there were sessions in several of the plans featuring research-based teaching and learning practices, there was no mention of applying the West Virginia Professional Teaching Standards (Goal 3).
- The strategic plans included a much broader spectrum of professional development offerings than what could be included under the umbrella of the 2011-2012 Board goals for professional development. For example, many RESAs included specific plans for professional development in adult basic education core workshops, public service training, GEAR-UP, Teaching American History, WVEIS on the Web (especially the student discipline module), preK standards and assessments, and various health education initiatives (e.g., Fitness Gram, Health Education Assessment Project [HEAP], Let's Move).
- Many of the plans included nonspecific language, such as this from RESA 4, "Provide professional development consistent with county and/or RESA 4 goals as stated in strategic plans" (RESA 4, 2011, p. 13), allowing for a highly responsive mode of service delivery—with no expressed alignment or commitment to the Board's goals for professional development.
- The RESA strategic plans all featured the Board's strategic goals for education, but not its goals for professional development.

It seems that a large part of the challenge for RESAs in forming and evaluating the PD Master Plan has to do with timing. Their planning cycle does not align with the Board's planning cycle—both of which are driven by state code. In the face of this challenge, the RESAs each submitted only three specific professional development titles—one focused on each of the three Board goals for professional development in 2012-2013. While this approach will address the problem of the lack of specificity in previous PD Master Plans, and will likely allow respondents in the current year's participant survey to more readily recognize the relationship of the professional development they engaged in with the goals it was designed to address, it poses another problem. Taking this approach will dramatically reduce the number of professional development offered by the RESAs that are included and approved in the PD Master Plan. Unless the process is altered, the consequence of this strategy for the RESAs will be a further steep decline—following the steep decline seen this year—in the number of participants who attend sessions approved as part of the PD Master Plan. Such an outcome is unfair to the RESAs, making it appear that their level of service to their regions is decreasing over time. This outcome also does not serve the larger goals of the Board as delineated in state code, which calls for the coordination and evaluation of professional development through the formation of a statewide master plan. Nor does it align with recommendations in the Education Efficiency Audit (Public Works, 2012) commissioned by the governor (more discussion about implications of the audit appears later in this section).

Yet, there may also be a solution in state code. The statute that outlines the process for developing the PD Master Plan includes the following language (§18-2-23a., see Appendix A):

The Master Plan shall serve as a guide for the delivery of coordinated professional staff development programs by the State Department of Education, the Center for

Professional Development, the state institutions of higher education and the regional educational service agencies beginning on the first day of June in the year in which the Master Plan was approved through the thirtieth day of May in the following year. *This section does not prohibit changes in the Master Plan, subject to State Board approval, to address staff development needs identified after the Master Plan was approved.* (Emphasis added.)

This language seems to leave open the possibility of amending the PD Master Plan to include more detailed plans for professional development that could be submitted by the RESAs after they have had the opportunity to consult the strategic plans generated by the districts they serve.

Participation of the West Virginia Center for Professional Development

The West Virginia Center for Professional Development (CPD) is at the center of the process for developing the PD Master Plan. It convenes meetings and works with the other providers to compile the plan and submits its own slate of planned professional development sessions.

In preparation for the formation of the 2012-2013 PD Master Plan, CPD obtained a list of planned professional development compiled from school strategic plans, for the Board PD Committee to use in its process of setting new goals for professional development. The list was massive, however, including tens of thousands of session titles that were not categorized in any way, so it proved to be of limited value in the goal-setting process. CPD also worked more closely with the Higher Education Policy Commission, and as a result there were representatives from Concord University, Marshall University, West Virginia State University, and West Virginia University at the PD Advisory Committee Meeting in February 2012. CPD also worked with the State Superintendent to convey to offices in the WVDE that all professional development they plan to provide must be part of the PD Master Plan, and prepared an informational frequently-asked-questions document about the Master Plan, which explained the process and included the Board's Goals (both strategic and professional development). Lastly, they posted an online tool for providers to use in submitting their session titles. This additional work resulted in an increase in the number of WVDE offices included in the plan from eight in 2011-2012 to 19 in 2012-2013. It did not result, however, in greater participation of IHEs. Only Marshall University continues to participate in the PD Master Plan.

Lastly it should be noted that CPD has a sophisticated online registration system for managing its professional development registrations—something most of the rest of the providers lack and the Board has expressed the need for.

Final thoughts on the process for developing the PD Master Plan

While a disproportionate part of the discussion thus far has focused on the RESAs, other agencies may also face some of the same planning schedule issues, and would be more able to provide a comprehensive and realistic plan for their professional development if they could add or subtract sessions early in the fall. If scheduling is determined to be at issue, it appears that there is a potential solution to the problem—that is, to reopen the PD Master Plan for a revised list of PD session titles with a deadline of October 1, which is the deadline

for RESA strategic plans and the earliest point at which they have their final list of professional development sessions compiled. This date is only 4 months into the PD Master Plan reporting year, so it would allow providers the opportunity to update plans for the remaining 8 months.

While the ability to update plans would be useful, it only affects logistical aspects of the planning process. Other, more programmatic and substantive issues remain about how to use the PD Master Plan as a stronger mechanism for coordinating professional development. The extent to which this plan helps drive the agenda for professional development is unknown, although the review (above) of RESA strategic plans in the context of the Board's Goals for Professional Development provides some evidence that there may not be a strong connection between what some providers deliver and what is envisioned by the Board through its PD Master Plan.

Yet, the Board's leadership in coordinating professional development was strongly called for in the recently released, *Education Efficiency Audit of West Virginia's Primary and Secondary Education System*, by Public Works (2012). The authors of the report made the following assertion:

States cannot improve the quality of professional development with a patchwork or series of improvement strategies. Rather, improvements must be strategic, systemic, and use research to determine the way professional development is selected, delivered, evaluated, and funded. (p. 62)

The authors endorsed the findings of the November 2006 RESA Task Force, which also called for more focused leadership with the following claim:

. . . [T]he governance structure of the West Virginia professional development system is too diffuse to assume that the entities responsible for professional development are working in a synchronized way to meet state goals for professional development. The professional development system needs to be driven by an agreed upon professional development definition, vision, and standards (Public Works, 2012, p. 55).

Later in the report, they made the following recommendation:

Refine and use the Master Plan for Statewide Professional Staff Development as a true strategic planning tool. In interviews conducted for this review, educators commented that while the Master Plan articulates the state's PD goals, it does not lay out a larger strategy for how those goals will be achieved. Some interviewees described the Plan as merely a "laundry list of state-approved PD courses." At its inception, the Master Plan was intended to serve as a tool to identify redundancies in PD offerings. However, so far, there are no real examples of eliminating duplications (p. 63).

During the course of the 2011-2012 year—before the *Education Efficiency Audit* was released—the Board began moving in the direction articulated in the audit. It adopted standards for professional development that are based on the Learning Forward (formerly the National Staff Development Council) standards. In December 2011, it developed a definition of professional development and a new set of goals. The new goals are strongly aligned to the Board's Strategic Goals and the Superintendent's priorities, forming a cohesive and coherent vision of the role for professional development. The Board's PD Committee also began exploring options for creating an online catalog of professional development offerings and cen-

tralized registration system. It soon realized that creating such a system would require planning, resources, and time to do well. Yet developing such a system could help eliminate duplications, provide needed oversight, and expedite the PD evaluation process.

Clearly, there is much to consider as the Board looks ahead to future PD Master Plans. As a next step toward the goal of actively coordinating professional development as envisioned in West Virginia Code (§18-2-23a), and as called for in the Education Audit, the Board may need to know more about this very complex terrain, including a more comprehensive view of the professional development that is offered by the following groups:

- IHEs—What sorts of partnerships exist between IHEs and RESAs, districts, and schools, and how well is what they are doing aligned with the Superintendent’s priorities and the Board’s strategic and professional development goals?
- RESAs and WVDE—What is the complete picture of professional development that RESAs and WVDE offices provide during the course of a year, and how do they decide upon those particular offerings; that is, are there criteria they use for prioritizing what they do in response to requests from the field, or do they respond based mainly on an expressed need by a school or district? How closely aligned is their decision making about the slate of professional development they will offer with the Superintendents’ priorities and the Board’s strategic and professional development goals?
- Districts and schools—What professional development do they provide? How do they prioritize their offerings? Who does the actual training/facilitation—vendors, IHEs, in-house staff, others?

Overall, a more comprehensive study of professional development could build on the work done by the authors of the *Education Efficiency Audit*, but also investigate what takes place at the school and district levels. We have heard from the RESAs and others that a large portion of the professional development they offer falls outside of the sessions listed in the plan due to shifting priorities, and needs as they arise. The Board may wish to examine this phenomenon, and consider whether professional development that providers offer outside of the PD Master Plan aligns with the Board’s strategic goals and priorities, and if not, determine if the Board should enlarge its vision or if such professional development efforts should be abandoned or refocused.

Limitations of the Study

The participant survey conducted in November-December 2011 and April-May 2012 (with supplemental polling in August for CPD participants) asked respondents to recall PD sessions they had participated in at some point in the past. In some cases, the sessions had taken place up to five months prior to the survey. For this reason, there is a possibility of temporal bias in survey participants’ responses.

Furthermore, the use of a retrospective pretest/posttest methodology to assess changes in knowledge, behavior and skills, and attitudes and beliefs poses some concerns. We used this methodology primarily because some researchers have argued that a phenomenon called *response shift bias* can occur when conducting traditional pretest/posttest designs. Response-shift bias “occurs when a participant uses a different internal understanding of the construct being measured to complete the pretest and posttest” (Moore & Tananis,

2009, p. 190). Consider this in context of professional development. Some respondents begin their involvement in professional development with a misconception that they are already well-versed in the content to be covered. When given a pretest, they rate their own knowledge, behavior and skills, and attitudes and beliefs very positively. However, over the course of the professional development, as they develop a deeper understanding of the content being covered, they realize they did not know as much as they originally thought. As such, when presented with the posttest, their frame of reference has shifted and they could potentially rate their knowledge, behavior and skills, and attitudes and beliefs lower than they did on the pretest. This can lead to problems in analyzing the impact of the professional development. For this reason, some researchers advocate for using retrospective pretest/posttest designs as we did in this study.

Despite this strength of the retrospective pretest/posttest design, a recent research study conducted by Nimon, Zigarmi, and Allen (2011) found that using traditional pretest/posttest designs leads to less biased estimates of program effectiveness. The authors present a compelling case that presenting both pre- and posttest items simultaneously on a single survey is among the most biased design options available to researchers and can significantly inflate effect size estimates. The authors recommend traditional pretest/posttest designs when possible and advocate for the implementation of a separate retrospective pretest to allow researchers to determine the presence of any response-shift bias. This design option, despite its strength, was not feasible in this study due to a mismatch between the scale of professional development offerings in the state and available evaluation staffing resources. Therefore, we recommend cautious interpretation of our own estimates of effect size, as they may be somewhat inflated.

While a 68.1% response rate (or 74.8% for the sample adjusted for attrition) is high for this type of survey, there remained a portion of the sample from whom we did not hear. We can account for approximately 7% of the nonrespondents as individuals whose e-mail addresses were broken or obsolete, or who contacted us to report that they had not attended the session in our survey participation request. But this leaves approximately 25% of the total sample whose perceptions about the professional development are unknown.

Our literature review did not reveal any appropriately tested and validated measures of professional development quality and/or impact that met our specific needs. Therefore, we developed our own measures for this study. Due to time and resource constraints, these measures were not field tested prior to operational use. Consequently, there is not adequate validity evidence that the constructs we sought to measure are fully addressed by our survey items. The measures used possess only face validity.

Issues for Consideration

The following considerations are based on findings from this study and are offered for the purpose of improving the overall process of formulating, implementing, and evaluating the West Virginia Master Plan for Professional Staff Development (PD Master Plan). Related to development of future PD Master Plans, we offer the following suggestions:

- With the exception of Marshall University's June Harless Center, other institutions of higher education (IHEs) with teacher preparation programs were absent from the 2011-2012 PD Master Plan, despite the WV Center for Professional Development's (CPD) efforts to include them. *The Board may wish to consider if there are other strategies that could be employed to bring this group into the Master Plan.*
- Similar to the approach they used in the 2010-2011 PD Master Plan, RESAs listed only seven session titles, and then reported multiple professional development sessions they provided under one of those seven titles during the course of the year. Staff indicate they have taken this approach because they cannot predict what professional development districts will request before the districts put together their strategic plans. *The Board may wish to consider reopening the PD Master Plan in early October, to allow the RESAs and other providers to revise their lists of planned professional development sessions based on strategic needs of their target audiences.*

Related to implementation of future PD Master Plans, we suggest the following:

- There were some newcomers to the PD Master Plan this year, which may explain why there was a slight drop in the fulfillment of sessions planned, from 80% last year to 77.5% in 2011-2012. A review of the reasons for not providing planned sessions revealed that the most prevalent reason for cancelling sessions was lack of interest (not enough people registered or districts did not request it). Five sessions were cancelled to avoid a duplication of effort and another five due to changing priorities. *Raising the rate of fulfillment would be a good goal, which could be enhanced by allowing providers to update the plan each October (as called for above).*
- Again this year, survey respondents indicated that providers have done well delivering professional development that is research-based in most of the seven dimensions measured. *Several of the providers could improve related to supporting extension of the professional development to the workplace via discussions and collaboration, and by providing follow-up sessions.*
- As discussed extensively in the previous section, about half of all respondents did not agree that the professional development they attended was helpful in meeting the Board goal that providers indicated the session was meant to support. *Providers should consider re-examining the alignment of the professional development they have in the current plan (and future plans) to be sure that they are providing experiences that truly are focused on the Board goals.*
- Travel time to and from professional development covered in the 2011-2012 PD Master Plan was estimated to total more than 20,000 hours for the more than 20,000 at-

tendees. *While some of this travel cannot be avoided, providers should consider looking for ways to reduce it, especially by using formats other than face-to-face for their sessions, which is the format currently used for 90% of all sessions.*

Related to evaluation of future PD Master Plans, we suggest the following:

- As noted in the *Education Efficiency Audit*, the evaluation of the PD Master Plan covers only professional development delivered by providers included in the plan, and only the subset of their offerings that were aligned with the Board's goals for professional development and submitted as part of the plan. The drop off in attendance by 42% this year may be an indication that even among this group, less of what providers offered fell under the auspices of the PD Master Plan. Left out of the PD Master Plan, and this study, is likely a large portion of the professional development that takes place in West Virginia—including professional development delivered by districts and schools. We know little about this professional development, including whether it is aligned with goals and priorities of the Board and Superintendent. *The Board may wish to consider studying more comprehensively the professional development that is offered by the four main groups of state and regional providers (CPD, IHEs, RESAs, and WVDE), and by districts and—to the extent possible—by schools. Conducting a 1-year study could provide essential background information as the Board strives to fulfill the leadership and coordinating role laid out for it in West Virginia Code (§18-2-23a) and urged upon it by the Education Efficiency Audit (Public Works, 2012). The Board could require providers to report on all professional development they offer, and in so doing, indicate for each session they conduct and report, to which goal the PD is aligned—or provide a rationale for why the professional development was offered. Part of the study could include an analysis of the rationales provided, which could inform the Board as it enters a new cycle of goal formation and planning.*

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Appendix A. West Virginia Code (§18-2-23a)

Retrieved from the West Virginia Legislature website at the following URL: <http://www.legis.state.wv.us/wvcode/code.cfm?chap=18&art=2>.

§18-2-23a. Annual professional staff development goals established by State Board; coordination of professional development programs; program development, approval and evaluation.

(a) *Legislative intent.* -- The intent of this section is:

(1) To provide for the coordination of professional development programs by the State Board;

(2) To promote high-quality instructional delivery and management practices for a thorough and efficient system of schools; and

(3) To ensure that the expertise and experience of state institutions of higher education with teacher preparation programs are included in developing and implementing professional development programs.

(b) *Goals.* -- The State Board annually shall establish goals for professional staff development in the public schools of the state. As a first priority, the State Board shall require adequate and appropriate professional staff development to ensure high quality teaching that will enable students to achieve the content standards established for the required curriculum in the public schools.

The State Board shall submit the goals to the State Department of Education, the Center for Professional Development, the regional educational service agencies, the Higher Education Policy Commission and the Legislative Oversight Commission on Education Accountability on or before the fifteenth day of January each year.

The goals shall include measures by which the effectiveness of the professional staff development programs will be evaluated. The professional staff development goals shall include separate goals for teachers, principals and paraprofessional service personnel and may include separate goals for classroom aides and others in the public schools.

In establishing the goals, the State Board shall review reports that may indicate a need for professional staff development including, but not limited to, the report of the Center for Professional Development created in article three-a, chapter eighteen-a of this code, student test scores on the statewide student assessment program, the measures of student and school performance for accreditation purposes, school and school district report cards and its plans for the use of funds in the strategic staff development fund pursuant to section thirty-two, article two, chapter eighteen of this code.

(c) The Center for Professional Development shall design a proposed professional staff development program plan to achieve the goals of the State Board and shall submit the proposed plan to the State Board for approval as soon as possible following receipt of the State Board goals each year. In developing and implement-

ing this plan, the Center first shall rely upon the available expertise and experience of state institutions of higher education before procuring advice, technical assistance or consulting services from sources outside the state.

The proposed plan shall include a strategy for evaluating the effectiveness of the professional staff development programs delivered under the plan and a cost estimate. The State Board shall review the proposed plan and return it to the Center for Professional Development noting whether the proposed plan is approved or is not approved, in whole or in part. If a proposed plan is not approved in whole, the State Board shall note its objections to the proposed plan or to the parts of the proposed plan not approved and may suggest improvements or specific modifications, additions or deletions to address more fully the goals or eliminate duplication. If the proposed plan is not wholly approved, the Center for Professional Development shall revise the plan to satisfy the objections of the State Board. State board approval is required prior to implementation of the professional staff development plan.

(d) The State Board approval of the proposed professional staff development plan shall establish a Master Plan for Professional Staff Development which shall be submitted by the State Board to the affected agencies and to the Legislative Oversight Commission on Education Accountability. The Master Plan shall include the State Board-approved plans for professional staff development by the State Department of Education, the Center for Professional Development, the state institutions of higher education and the regional educational service agencies to meet the professional staff development goals of the State Board. The Master Plan also shall include a plan for evaluating the effectiveness of the professional staff development delivered through the programs and a cost estimate.

The Master Plan shall serve as a guide for the delivery of coordinated professional staff development programs by the State Department of Education, the Center for Professional Development, the state institutions of higher education and the regional educational service agencies beginning on the first day of June in the year in which the Master Plan was approved through the thirtieth day of May in the following year. This section does not prohibit changes in the Master Plan, subject to State Board approval, to address staff development needs identified after the Master Plan was approved.

Appendix B. Providers' Session Report Protocol

WVBE 2011-2012 PD Master Plan Session Report

[posted online in SurveyMonkey]

Contact information

Name:

E-mail Address:

Organization: [Drop-down menu listing providers]

Select which session from the 2011-2012 PD Master Plan you are reporting. [Drop-down menu listing session titles for the organization selected in item above]

What was the duration of this session? Please indicate the total number of hours:

Please indicate the dates for this session.

Beginning date (MM/DD/YYYY):

Ending date (MM/DD/YYYY):

In which county was the training held? [Drop-down menu listing counties]

What was the format of the training? [Drop-down menu with the following options: Face-to-face, Online, Blended]

What was the attendance for this session? Please indicate the number of participants:

Please paste or type participant e-mail addresses in the box below. If you have more than 250 addresses, use the second box for additional addresses, beginning with the 251st address. E-mail addresses can be submitted as a list with one address per line, or separated by commas, semicolons, or spaces. NOTE: E-mail addresses are NOT required for sessions held from April 1 through May 31, 2012.

Is there anything else we need to know about this PD session? (Limit 50 words):

Appendix C. WV PD Master Plan: 2012 Participant Survey

WV PD Master Plan: 2012 Participant Survey (No. WWDE-CIS-48)	
Welcome to the 2011-2012 West Virginia PD Evaluation Survey	
<p>In the e-mail message you received, the title and provider of a professional development session you attended are mentioned. This session may have taken place several months ago. Please respond to the questions in this survey as best you can, based on the lasting impressions you carried with you about this particular professional development experience.</p>	
*Your e-mail address (Please provide the e-mail address we used to send you the survey invitation):	
<input type="text"/>	
*Survey code (from e-mail invitation you received):	
<input type="text"/>	
Please tell us about yourself.	
*Approximately how many hours do you expect to spend in professional development (including the session you are evaluating in this survey) from June 1, 2011 through May 31, 2012?	
<input type="radio"/> 0 to 15	
<input type="radio"/> 16 to 30	
<input type="radio"/> 31 to 45	
<input type="radio"/> 45 to 60	
<input type="radio"/> more than 60	
Other (please specify)	
<input type="text"/>	
More about yourself . . .	
*In which district (or other setting) do you currently work?	
Select one. <input type="text"/>	
More about yourself . . .	

WV PD Master Plan: 2012 Participant Survey (No. WVDE-CIS-48)

***Which of the following best describes your highest level of educational attainment?**

Associate

Bachelor's

Bachelor's + additional credits

Master's

Master's + additional credits

Doctorate

Other

Other (please specify)

***What is your current role?**

District central office staff

Principal/assistant principal

Regular classroom teacher

Special education teacher

Other

Other (please specify)

More about yourself . . .

***How many years of work experience have you had in education?**

less than 1

1 to 5

6 to 10

11 to 15

more than 15

More about yourself . . .

WV PD Master Plan: 2012 Participant Survey (No. WVDE-CIS-48)

***Which grade level(s) are you currently teaching or administering?**

N/A

Early childhood/Elementary school

Middle school

High school

Other

Other (please specify)

***Which of the content areas listed below is the main one you currently teach?**

N/A (e.g., administrator or county staff)

All subject areas (e.g., elementary teacher, support personnel)

Arts (visual, music, dance, theater, other)

Career/technical education

English as a second language

Foreign language

Mathematics

Physical education

Reading/language arts

Science

Social studies

Special education

Evaluation Questions

Please indicate to what extent you agree or disagree with the following statements about the professional development noted in the e-mail evaluation survey request you received.

WV PD Master Plan: 2012 Participant Survey (No. WUDE-CIS-48)						
The professional development was—						
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Intensive in nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Specific and content-focused.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Relevant to my current needs and circumstances as an educator.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Hands-on and included active learning opportunities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Supported by follow-up discussion or collaboration at our school or office or online.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Supported by related follow-up PD sessions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Beneficial and had a positive impact on our students and/or school, overall.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Evaluation Questions, continued						
The professional development was helpful to me in—						
	Not Applicable	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Delivering standards-based instruction in English/language arts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering standards-based instruction in mathematics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering standards-based instruction in other content areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Delivering instruction in alignment with the new Common Core State Standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving students' writing and text complexity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving students' literacy and/or numeracy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Integrating technology and/or science into improvement efforts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding and applying the WV Professional Teaching Standards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improving leadership and collaboration to facilitate school improvement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Evaluation Questions, continued						

WV PD Master Plan: 2012 Participant Survey (No. WVDE-CIS-48)

Please rate the following items.

	Not at all	To a small extent	To a moderate extent	To a great extent	Not applicable
Before participating in this PD, to what extent were you knowledgeable about the topic it covered?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After participating in this PD, to what extent are you knowledgeable about the topic it covered?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before participating in this PD, to what extent did you practice behaviors or skills it taught?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After participating in this PD, to what extent do you practice behaviors or skills it taught?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before participating in this PD, to what extent did you hold attitudes/beliefs it encouraged?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After participating in this PD, to what extent do you hold attitudes/beliefs it encouraged?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***How long did you have to travel to participate in this professional development activity?**

Less than 30 minutes

31–60 minutes

61–90 minutes

91 minutes–2 hours

More than 2 hours

Appendix D. E-mail Survey Participation Requests

SURVEY ANNOUNCEMENT

Dear Educator,

In a few days, you will receive an important message about a brief survey that the West Virginia Board of Education has asked us to conduct.

You were selected from the thousands of state educators who participated in professional development from November 1, 2011 through March 31, 2012, offered by Marshall University (June Harless Center), the West Virginia Center for Professional Development, the Regional Education Service Agencies (RESAs), and the West Virginia Department of Education.

The questionnaire has been designed so you can fill it out very quickly and easily. You need only check off your answers. It will only take **2 to 5 minutes** to fill out online.

We urge you to watch for this invitation and to take a few minutes to respond as soon as you receive the message.

Your honest impressions, whether favorable or unfavorable, will be greatly appreciated.

Best regards,

Pat Hammer

Patricia Cahape Hammer

Coordinator

Office of Research



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FIRST REQUEST

Dear Educator,

The West Virginia Board of Education has asked us to conduct a brief survey of a sample of educators who participated in professional development offered by various statewide providers from November 2011 through March 2012.

You were selected from educators who participated in a professional development session provided by «Provider», beginning on «begindate», addressing the following topic: «resasession».

It is very important that we learn of your opinions about this session because you represent others who shared your experience. The questionnaire has been designed so you can fill it out very quickly and easily. You need only check off your answers. It will only take **2 to 5 minutes** to fill out online.

You can be absolutely sure that all of the information you provide is strictly confidential, and no individual respondent will be identified. Your answers will be combined with others and used only for statistical analysis.

Your honest impressions about the professional development, whether favorable or unfavorable, are very necessary to be sure we are able to provide an accurate evaluation for the Board.

Please follow these easy steps:

- Click on this link: <https://www.surveymonkey.com/s/WVBE2012PDPParticipantSurvey>
- Type in the **e-mail address we used to send you this message**.
- Copy the following **Survey Code** and paste it into the appropriate box: «**sessionid**».

We genuinely appreciate your participation. Thank you!

Best regards,

Pat Hammer

Patricia Cahape Hammer
Coordinator
Office of Research

West Virginia Department of Education

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SECOND REQUEST

Dear Educator,

Last Thursday, we contacted you about a brief survey that the West Virginia Board of Education has asked us to conduct. In response to their request we are contacting a sample of educators who participated in professional development offered by various statewide providers from November 1, 2011 through March 31, 2012.

You were selected from educators who participated in a professional development session provided by XX beginning on XX, addressing the following topic: **XX**

It is very important that we learn of your opinions about this session because you represent others who shared your experience. The questionnaire has been designed so you can fill it out very quickly and easily. You need only check off your answers. It will only take **2 to 5 minutes** to fill out online.

You can be absolutely sure that all of the information you provide is strictly confidential, and no individual respondent will be identified. Your answers will be combined with others and used only for statistical analysis.

Your honest impressions about the professional development, whether favorable or unfavorable, are very necessary to be sure we are able to provide an accurate evaluation for the Board.

Please follow these easy steps:

- Click on this link: <https://www.surveymonkey.com/s/WVBE2012PDPParticipantSurvey> .
- Type in the **e-mail address we used to send you this message**.
- Copy the following **Survey Code** and paste it into the appropriate box: XX.

We genuinely appreciate your participation. Thank you!

Best regards,

Pat Hammer

Patricia Cahape Hammer

Coordinator

Office of Research

West Virginia Department of Education

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THIRD REQUEST

Dear Educator,

Once again, we are contacting you about a brief survey the West Virginia Board of Education has asked us to conduct of a sample of educators who participated in professional development offered by statewide providers from November 2011 through March 2012.

You were selected from educators who participated in a professional development session provided by «Provider» beginning on «begindate», on the following topic: **«resasession»**.

It is very important that we learn of your opinions about this professional development because you represent others who shared your experience. The questionnaire has been designed so you can fill it out very quickly and easily. You need only check off your answers. It will only take **2 to 5 minutes** to fill out online.

You can be absolutely sure that all of the information you provide is strictly confidential, and no individual respondent will be identified. Your answers will be combined with others and used only for statistical analysis.

Your honest impressions about the professional development, whether favorable or unfavorable, are very necessary to be sure we are able to provide an accurate evaluation for the Board.

Please follow these easy steps:

- Click on this link: <https://www.surveymonkey.com/s/WVBE2012PDPParticipantSurvey>.
- Type in the **e-mail address we used to send you this message**.
- Copy the following **Survey Code** and paste it into the appropriate box: **«sessionid»**.

We genuinely appreciate your participation. Thank you!

Best regards,

Pat Hammer

Patricia Cahape Hammer

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FOURTH (FINAL) REQUEST

Dear Educator,

Please pardon our persistence, but we have not yet heard from you, so we must contact you again about a brief survey the West Virginia Board of Education has asked us to conduct of a sample of educators who participated in professional development offered by various statewide providers from November 2011 through March 2012.

You were selected from educators who participated in a professional development session provided by XX beginning on XX, on the following topic: **XX**

It is very important that we learn of your opinions about this session because you represent others who shared your experience. The questionnaire has been designed so you can fill it out very quickly and easily. You need only check off your answers. It will only take **2 to 5 minutes** to fill out online.

You can be absolutely sure that all of the information you provide is strictly confidential, and no individual respondent will be identified. Your answers will be combined with others and used only for statistical analysis.

Your honest impressions about the professional development, whether favorable or unfavorable, are very necessary to be sure we are able to provide an accurate evaluation for the Board.

Please follow these easy steps:

- Click on this link: <https://www.surveymonkey.com/s/WVBE2012PDPParticipantSurvey>.
- Type in your **e-mail address that we used to send you this message**.
- Copy the following **Survey Code** and paste it into the appropriate box: **XX**

We genuinely appreciate your participation. Thank you!

Best regards,

Pat Hammer

Patricia Cahape Hammer
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Appendix E. Providers' Missing Sessions Report

Missing Sessions Report

According to the session reports we received from your staff, there was at least one session you included in the 2011-2012 WVBE Master Plan for Statewide Professional Staff Development, which your organization did not provide. The Board is interested in knowing what impediments sometimes prevent the implementation of the plan. For each of the session topics listed below, please indicate the primary reason the session was not held. If you select "other," briefly specify the reason.

Session not reported	Primary Reason	If Other, specify
Advanced Placement European History	Lack of applicants or registrations	
Advanced Placement Macroeconomics	Lack of applicants or registrations	
Advanced Placement Microeconomics	Lack of applicants or registrations	

Appendix F. Participant Survey Data Tables

Table A 1. Estimated Travel Time to Participate in Professional Development

School district or worksite	Estimated mean minutes of travel	Number of respondents	Travel time in minutes				
			30 or less	31-60	61-90	91-120	More than 120
All	61.9	4,126	1,417	915	615	477	702
Barbour	73.1	37	6	12	6	5	8
Berkeley	73.7	132	60	7	3	5	57
Boone	57.9	104	29	43	7	10	15
Braxton	53.9	43	14	13	9	4	3
Brooke	67.2	29	10	4	4	6	5
Cabell	43.5	152	86	33	9	5	19
Calhoun	46.2	43	22	7	6	7	1
Clay	50.1	46	16	17	7	2	4
Doddridge	49.1	25	7	10	6	2	0
Fayette	48.3	152	67	45	15	9	16
Gilmer	47.2	53	25	9	12	5	2
Grant	70.8	38	17	3	1	3	14
Greenbrier	75.8	98	12	26	26	17	17
Hampshire	105.5	67	3	7	11	12	34
Hancock	75.5	48	11	12	5	6	14
Hardy	91.5	43	9	3	7	4	20
Harrison	55.2	90	25	40	5	11	9
Institutional	73.1	76	17	19	10	13	17
Jackson	70.1	50	2	26	9	5	8
Jefferson	58.6	80	43	9	1	4	23
Kanawha	45.6	301	177	47	14	25	38
Lewis	51.3	26	11	6	3	5	1
Lincoln	64.1	95	17	38	20	4	16
Logan	69.9	48	8	12	16	5	7
Marion	54.7	95	35	29	9	11	11
Marshall	80.8	57	10	5	17	15	10
Mason	53.9	79	26	25	16	4	8
McDowell	87.2	87	9	13	22	21	22
Mercer	64.0	91	32	19	11	10	19
Mineral	98.8	36	2	1	12	9	12

Table A 1 continues on next page

Table A 1. Estimated Travel Time to Participate in Professional Development

School district or worksite	Estimated mean minutes of travel	Number of respondents	Travel time in minutes				
			30 or less	31-60	61-90	91-120	More than 120
Mingo	71.4	102	23	24	18	18	19
Monongalia	45.5	136	72	32	7	10	15
Monroe	96.5	30	2	5	5	6	12
Morgan	80.6	35	8	6	3	8	10
Nicholas	56.2	90	42	8	14	18	8
Ohio	88.3	61	10	3	15	17	16
Other	63.0	110	42	19	16	9	24
Pendleton	65.2	61	30	1	5	10	15
Pleasants	66.9	28	6	6	8	6	2
Pocahontas	54.8	45	20	7	7	6	5
Preston	88.4	28	1	9	5	3	10
Putnam	50.7	98	41	32	8	1	16
Raleigh	49.2	106	44	30	17	5	10
Randolph	76.3	72	13	9	26	11	13
Ritchie	85.5	9	0	4	0	3	2
Roane	59.4	69	14	26	18	5	6
Summers	82.2	36	4	10	6	6	10
Taylor	61.3	36	8	16	1	7	4
Tucker	58.4	42	18	6	6	6	6
Tyler	78.7	19	0	8	3	6	2
Upshur	53.7	66	24	14	16	10	2
Wayne	61.8	92	29	31	8	1	23
Webster	70.7	44	7	13	11	6	7
Wetzel	65.1	69	17	18	15	10	9
Wirt	62.0	40	13	4	14	6	3
Wood	55.8	187	80	12	57	27	11
WV Deaf & Blind	83.5	15	5	0	0	6	4
Wyoming	48.2	79	36	22	7	6	8

Note: Eliminated from this analysis were respondents from out-of-state and from WVDE.

Adherence to Research-Based Practices Data Tables

Table A 2. Adherence to Research-Based Practices for High Quality Professional Development, by Programmatic Level

Research-Based Practice	Total		Early child./elem.		Middle school		High school		Other		N/A	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Overall Quality Index*	3.82	.711	3.88	.720	3.78	.718	3.79	.678	3.80	.745	3.78	.664
Supported by follow-up PD sessions	3.40	1.047	3.46	1.061	3.39	1.031	3.33	1.043	3.38	1.027	3.38	.971
Supported by follow-up discussion	3.59	1.052	3.69	1.031	3.60	1.036	3.46	1.095	3.59	1.043	3.58	.942
Specific and content-focused	4.17	.769	4.23	.756	4.11	.774	4.17	.765	4.13	.782	4.17	.685
Relevant to current needs	4.08	.868	4.13	.868	4.02	.893	4.08	.861	4.08	.861	4.09	.800
Intensive in nature	3.73	.904	3.77	.912	3.66	.898	3.74	.887	3.71	.880	3.61	.893
Hands-on with active learning	3.87	.945	3.93	.928	3.81	.934	3.85	.952	3.74	.996	3.73	.976
Beneficial, had a positive impact	3.89	.909	3.94	.925	3.87	.911	3.86	.891	3.85	.884	3.88	.814

* This is a computed value based on the average of the other seven measures of quality.

NOTE: Frequencies ranged from 4135 to 4263 (Total), 1783 to 1834 (Early Child./elem.), 1013 to 1040 (Middle school), 1315 to 1356 (High school), 308 to 321 (Other), and 282 to 295 (N/A).

Table A 3. Adherence to Research-Based Practices for High Quality Professional Development, by Professional Role

Research-Based Practice	Total		District central office staff		Principal/assistant principal		Regular classroom teacher		Special education teacher		Other professional role	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Overall Quality Index*	3.82	.711	3.88	.680	3.83	.675	3.87	.727	3.88	.670	3.71	.710
Supported by follow-up PD sessions	3.40	1.047	3.54	.975	3.44	1.014	3.46	1.075	3.53	1.010	3.20	1.027
Supported by follow-up discussion	3.59	1.052	3.72	.940	3.73	.915	3.59	1.093	3.70	1.020	3.44	1.064
Specific and content-focused	4.17	.769	4.21	.757	4.14	.745	4.19	.810	4.19	.694	4.12	.743
Relevant to current needs	4.08	.868	4.25	.751	4.15	.789	4.08	.925	4.03	.847	4.02	.845
Intensive in nature	3.73	.904	3.70	.862	3.65	.872	3.83	.910	3.78	.867	3.59	.914
Hands-on with active learning	3.87	.945	3.74	.990	3.75	.934	4.01	.919	3.99	.850	3.70	.964
Beneficial, had a positive impact	3.89	.909	3.97	.810	3.93	.823	3.89	.973	3.92	.874	3.83	.879

* This is a computed value based on the average of the other seven measures of quality.

NOTE: Frequencies ranged from 3988 to 4114 (Total), 418 to 432 (District central office staff), 409 to 417 (Principal/assistant principal), 1752 to 1802 (Regular classroom teacher), 415 to 430 (Special education teacher), and 1141 to 1182 (Other).

Table A 4. Adherence to Research-Based Practices for High Quality Professional Development, by Content Area

	ALL	ARTS	CTE	ESL	FL	MATH	PE	RLA	SCI	SOCS	SPED	N/A
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Content area	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Overall Quality Index*	3.94	3.76	3.78	3.88	4.00	3.72	4.03	3.78	3.88	3.78	3.86	3.75
	.720	.827	.653	.616	.639	.694	.673	.806	.661	.746	.712	.668
Supported by follow-up PD sessions	3.53	3.26	3.41	3.60	3.49	3.24	3.79	3.38	3.55	3.29	3.51	3.30
	1.072	1.210	.949	.986	1.227	1.020	.876	1.095	1.081	1.083	1.051	.995
Supported by follow-up discussion	3.71	3.40	3.56	3.93	3.63	3.40	3.92	3.51	3.51	3.42	3.66	3.57
	1.050	1.216	1.001	.594	1.260	1.058	.922	1.131	1.196	1.113	1.057	.980
Specific and content-focused	4.27	4.13	4.07	4.07	4.43	4.11	4.21	4.11	4.25	4.12	4.17	4.13
	.734	.949	.787	.799	.675	.822	.718	.910	.713	.897	.706	.725
Relevant to current needs	4.16	3.84	4.02	4.00	4.10	4.00	4.14	4.00	4.11	4.03	4.03	4.10
	.868	1.182	.857	1.038	.800	.903	.869	.977	.829	.952	.839	.798
Intensive in nature	3.86	3.76	3.68	4.00	3.93	3.69	3.96	3.73	3.89	3.79	3.76	3.59
	.881	1.065	.852	.655	1.058	.925	.832	.968	.840	.943	.885	.878
Hands-on with active learning	4.01	4.00	3.91	3.60	4.10	3.91	4.05	3.90	4.07	3.87	3.93	3.68
	.930	1.010	.849	1.056	.917	.887	.830	1.007	.866	.951	.868	.957
Beneficial, had a positive impact	4.00	3.81	3.82	3.73	4.02	3.73	4.07	3.75	3.90	3.94	3.91	3.87
	.933	1.184	.906	.884	.880	.907	.848	1.026	.965	.972	.876	.820

* This is a computed value based on the average of the other seven measures of quality.

NOTES:

Frequencies ranged from 929-958 (ALL), 93-98 (ARTS), 122-123 (CTE), 14-15 (ESL), 40-41 (FL), 331-341 (MATH), 97-99 (PE), 402-412 (RLA), 180-188 (SCI), 168-173 (SOCS), 370-381 (SPED), 1389-1437 (N/A).

ALL = All subject areas (e.g., elementary teacher, support personnel); ARTS = Arts (visual, music, dance, theater, other); CTE = Career/technical education; ESL = English as a second language; FL = Foreign language; MATH = Mathematics; PE = Physical education; RLA = Reading/language arts; SCI = Science; SOCS = Social studies; SPED = Special education; N/A = Not applicable (e.g., administrator or county staff)

Table A 5. Adherence to Research-Based Practices for High Quality Professional Development, by Provider

Provider	Total	CPD	RESA 1	RESA 2	RESA 3	RESA 4	RESA 5	RESA 6	RESA 7	RESA 8
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Overall Quality Index*	3.82 .711	3.95 .686	4.15 .712	3.97 .674	3.91 .702	3.74 .681	3.74 .786	3.68 .773	3.58 .699	3.51 .637
Supported by follow-up PD sessions	3.40 1.047	3.41 1.125	3.77 1.050	3.78 .996	3.64 1.077	3.40 1.011	3.20 1.080	3.47 1.108	3.08 1.094	3.00 .962
Supported by follow-up discussion	3.59 1.052	3.26 1.217	3.95 .990	3.82 .962	3.73 1.037	3.44 1.048	3.40 1.132	3.64 1.052	3.35 1.023	3.33 .936
Specific and content-focused	4.17 .769	4.39 .778	4.50 .761	4.27 .626	4.17 .730	4.00 .748	4.03 .925	4.02 .724	4.03 .750	3.91 .740
Relevant to current needs	4.08 .868	4.33 .880	4.38 .778	4.17 .726	4.14 .813	3.98 .799	3.92 .974	3.72 1.015	3.95 .861	3.84 .887
Intensive in nature	3.73 .904	3.99 .908	4.09 .793	3.80 .786	3.81 .876	3.58 .894	3.71 .999	3.59 .818	3.32 .943	3.43 .873
Hands-on with active learning	3.87 .945	4.17 .899	4.06 .907	3.99 .881	3.93 .894	3.89 .886	3.90 .982	3.80 1.048	3.72 1.025	3.44 .916
Beneficial, had a positive impact	3.89 .909	4.11 .892	4.24 .789	4.03 .864	3.96 .981	3.84 .817	3.72 1.038	3.59 1.010	3.63 .959	3.66 .792

Table A 5 continues on next page.

* This is a computed value based on the average of the other seven measures of quality.

NOTES:

Frequencies ranged from 4,135 to 4,263 (Total), 377 to 388 (CPD), 109 to 111 (RESA 1), 110 to 116 (RESA 2), 83 (RESA 3), 233-243 (RESA 4), 187 to 198 (RESA 6), 200 to 209 (RESA 7), and 155 to 161 (RESA 8).

CPD = WV Center for Professional Development; RESA = regional education service agency (one each for eight regions in West Virginia).

Table A 5. Adherence to Research-Based Practices for High Quality Professional Development, by Provider, CONTINUED

Provider	Total	Marshall	OAA	OHS	OI	OIE	OSI	OSP	Title I	Title II, III, SS
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
Overall	3.82	3.94	3.74	3.79	4.00	3.78	3.55	4.00	3.78	4.02
Quality In- dex*	.711	.823	.739	.704	.693	.607	.626	.680	.633	.675
Supported by follow-up PD sessions	3.40	3.81	3.33	3.44	3.51	3.26	2.93	3.62	3.56	3.84
	1.047	1.083	1.028	.973	1.070	.865	.887	1.027	.900	.998
Supported by follow-up discussion	3.59	3.91	3.57	3.64	3.78	3.66	3.18	3.81	3.81	4.09
	1.052	1.075	1.017	1.019	1.026	.888	1.016	1.011	.853	.811
Specific and content- focused	4.17	4.10	4.12	4.12	4.33	4.18	4.05	4.30	4.04	4.40
	.769	.921	.772	.733	.742	.700	.691	.733	.722	.760
Relevant to current needs	4.08	3.95	3.98	4.08	4.26	4.11	3.99	4.19	3.96	3.84
	.868	.994	.951	.833	.828	.803	.782	.774	.846	1.045
Intensive in nature	3.73	3.72	3.61	3.58	3.95	3.64	3.48	3.90	3.73	4.16
	.904	.914	.910	.978	.918	.737	.810	.887	.788	.843
Hands-on with active learning	3.87	4.05	3.67	3.74	4.16	3.74	3.49	4.04	3.68	3.98
	.945	.909	.962	.984	.868	.907	.919	.901	.860	.886
Beneficial, had a posi- tive impact	3.89	3.94	3.82	3.97	4.02	3.94	3.71	4.10	3.70	3.81
	.909	1.047	.953	.826	.888	.830	.814	.825	.911	1.006

* This is a computed value based on the average of the other seven measures of quality.

NOTES:

Frequencies ranged from 4,135 to 4,263 (Total), 184 to 191 (Marshall), 266 to 275 (OAA), 203 to 209 (OHS), 138 to 142 (OIE), 640 to 652 (OI), 424 to 441 (OSI), 285 to 298 (OSP), 412 to 420 (Title I), and 43 (Title II, III, SS).
Marshall = Marshall University June Harless Center; OAA = WVDE Office of Assessment and Accountability; OHS = WVDE Office of Healthy Schools; OIE = WVDE Office of Institutional Education Programs; OI = WVDE Office of Instruction; OSI = WVDE Office of School Improvement; OSP = WVDE Office of Special Programs; Title I = WVDE Office of Title I; Title II, III, SS = WVDE Office of Title II, III, and System Support.

Paired Samples *T* Tests of Perceived Impacts on Knowledge, Behaviors, and Attitudes/Beliefs

Table A 6. Paired-Samples *T* Test of Perceived Impact, by Programmatic Level

Programmatic level	Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	<i>t</i>	Significance	<i>n</i>	Effect size (Cohen's <i>d</i>)
Early childhood/ elementary	Knowledge	.768	.747	.018	43.193	.000	1763	1.14
	Behavior	.598	.717	.017	34.294	.000	1686	.76
	Attitudes/beliefs	.313	.751	.018	16.979	.000	1663	.46
Middle school	Knowledge	.720	.778	.025	29.347	.000	1004	1.04
	Behavior	.536	.689	.022	24.145	.000	965	.64
	Attitudes/beliefs	.246	.764	.025	9.896	.000	949	.34
High school	Knowledge	.661	.749	.021	31.888	.000	1304	.89
	Behavior	.501	.694	.020	25.372	.000	1235	.60
	Attitudes/beliefs	.227	.721	.021	11.014	.000	1218	.31
Other	Knowledge	.488	.627	.037	13.364	.000	295	.67
	Behavior	.393	.684	.041	9.481	.000	272	.41
	Attitudes/beliefs	.167	.705	.043	3.842	.000	264	.20
Not applicable	Knowledge	.531	.670	.041	12.812	.000	262	.75
	Behavior	.463	.673	.045	10.352	.000	227	.47
	Attitudes/beliefs	.156	.680	.045	3.432	.001	225	.20

Table A 7. Paired-Samples *T* Test of Perceived Impact, by Professional Role

Professional Role	Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	<i>t</i>	Significance	<i>n</i>	Effect size (Cohen's <i>d</i>)
District central office staff	Knowledge	.553	.689	.034	16.192	.000	407	.95
	Behavior	.454	.727	.038	11.840	.000	359	.57
	Attitudes/beliefs	.149	.702	.037	4.000	.000	356	.23
Principal/ assistant principal	Knowledge	.686	.699	.035	19.773	.000	405	1.05
	Behavior	.556	.670	.034	16.117	.000	378	.69
	Attitudes/beliefs	.225	.708	.037	6.132	.000	374	.30
Regular classroom teacher	Knowledge	.865	.772	.018	46.899	.000	1752	1.21
	Behavior	.641	.732	.018	36.003	.000	1693	.81
	Attitudes/beliefs	.342	.771	.019	18.201	.000	1683	.49
Special education teacher	Knowledge	.763	.758	.037	20.448	.000	413	1.11
	Behavior	.580	.660	.033	17.544	.000	398	.73
	Attitudes/beliefs	.293	.707	.036	8.219	.000	392	.42
Other	Knowledge	.507	.681	.021	24.723	.000	1100	.69
	Behavior	.406	.648	.020	20.093	.000	1030	.44
	Attitudes/beliefs	.158	.680	.021	7.338	.000	1003	.20

Table A 8. Paired-Samples T Test of Perceived Impact, by Content Area

Content area	Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	t	Signifi- cance	n	Effect size (Cohen's d)
All subject areas	Knowledge	.885	.747	.025	35.841	.000	914	1.32
	Behavior	.667	.746	.025	26.638	.000	888	.88
	Attitudes/beliefs	.377	.790	.027	14.127	.000	879	.59
Arts	Knowledge	.871	.875	.091	9.598	.000	93	1.26
	Behavior	.522	.640	.067	7.741	.000	90	.69
	Attitudes/beliefs	.352	.766	.080	4.382	.000	91	.48
Career/technical education	Knowledge	.620	.698	.063	9.764	.000	121	1.01
	Behavior	.535	.731	.068	7.817	.000	114	.72
	Attitudes/beliefs	.272	.768	.072	3.783	.000	114	.41
English as a second language	Knowledge	.533	.743	.192	2.779	.015	15	.62
	Behavior	.286	.611	.163	1.749	.104	14	.14
	Attitudes/beliefs	.286	.611	.163	1.749	.104	14	.17
Foreign language	Knowledge	1.077	.774	.124	8.688	.000	39	1.32
	Behavior	.769	.706	.113	6.807	.000	39	.76
	Attitudes/beliefs	.333	.806	.129	2.584	.014	39	.45
Mathematics	Knowledge	.839	.756	.041	20.357	.000	336	1.09
	Behavior	.522	.673	.038	13.784	.000	316	.57
	Attitudes/beliefs	.226	.760	.043	5.270	.000	314	.30
N/A	Knowledge	.539	.678	.018	29.221	.000	1352	.81
	Behavior	.443	.683	.019	22.831	.000	1239	.52
	Attitudes/beliefs	.161	.698	.020	8.013	.000	1214	.22
Physical education	Knowledge	.600	.659	.068	8.877	.000	95	.65
	Behavior	.500	.655	.068	7.326	.000	92	.50
	Attitudes/beliefs	.391	.695	.072	5.403	.000	92	.40
Reading/language arts	Knowledge	.746	.812	.041	18.377	.000	401	1.08
	Behavior	.529	.656	.034	15.684	.000	378	.61
	Attitudes/beliefs	.269	.717	.037	7.303	.000	379	.35
Science	Knowledge	.834	.820	.061	13.688	.000	181	1.15
	Behavior	.653	.740	.056	11.712	.000	176	.84
	Attitudes/beliefs	.218	.720	.055	4.001	.000	174	.32
Social studies	Knowledge	.728	.722	.056	13.112	.000	169	.89
	Behavior	.685	.705	.055	12.470	.000	165	.81
	Attitudes/beliefs	.288	.655	.051	5.623	.000	163	.38
Special education	Knowledge	.651	.734	.039	16.848	.000	361	.91
	Behavior	.533	.685	.037	14.498	.000	347	.67
	Attitudes/beliefs	.257	.679	.037	6.921	.000	335	.35

Table A 9. Paired-Samples *T* Test of Perceived Impact, by Provider

Provider	Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	<i>t</i>	Signifi- cance	<i>n</i>	Effect size (Cohen's <i>d</i>)
Center for Professional Development	Knowledge	.754	.730	.037	20.194	.000	382	1.24
	Behavior	.678	.674	.035	19.225	.000	366	.98
	Attitudes/beliefs	.398	.606	.032	12.545	.000	364	.51
Marshall University June Harless Center	Knowledge	.792	.793	.059	13.327	.000	178	1.39
	Behavior	.731	.810	.062	11.797	.000	171	1.02
	Attitudes/beliefs	.506	.713	.054	9.301	.000	172	.66
RESA 1	Knowledge	.915	.745	.072	12.651	.000	106	1.40
	Behavior	.735	.688	.068	10.789	.000	102	.87
	Attitudes/beliefs	.485	.739	.073	6.665	.000	103	.72
RESA 2	Knowledge	.948	.759	.071	13.390	.000	115	1.48
	Behavior	.673	.718	.068	9.824	.000	110	.89
	Attitudes/beliefs	.556	.660	.064	8.742	.000	108	.79
RESA 3	Knowledge	.588	.630	.070	8.337	.000	80	.84
	Behavior	.600	.637	.074	8.161	.000	75	.82
	Attitudes/beliefs	.513	.663	.076	6.746	.000	76	.67
RESA 4	Knowledge	.680	.781	.051	13.226	.000	231	1.05
	Behavior	.445	.670	.045	9.860	.000	220	.59
	Attitudes/beliefs	.326	.596	.040	8.184	.000	224	.47
RESA 5	Knowledge	.849	.726	.052	16.207	.000	192	1.02
	Behavior	.698	.736	.054	13.048	.000	189	.73
	Attitudes/beliefs	.458	.820	.060	7.695	.000	190	.53
RESA 6	Knowledge	.654	.735	.083	7.851	.000	78	.90
	Behavior	.366	.660	.078	4.676	.000	71	.36
	Attitudes/beliefs	.303	.674	.077	3.916	.000	76	.40
RESA 7	Knowledge	.688	.808	.057	12.098	.000	202	.90
	Behavior	.555	.804	.060	9.314	.000	182	.57
	Attitudes/beliefs	.321	.677	.052	6.150	.000	168	.30
RESA 8	Knowledge	.553	.585	.048	11.575	.000	150	.74
	Behavior	.400	.506	.043	9.352	.000	140	.45
	Attitudes/beliefs	.333	.528	.044	7.658	.000	147	.41
WVDE Office of Assessment & Accountability	Knowledge	.513	.642	.040	12.917	.000	261	.74
	Behavior	.372	.589	.037	9.985	.000	250	.39
	Attitudes/beliefs	.306	.526	.033	9.220	.000	252	.34
WVDE Office of Healthy Schools	Knowledge	.429	.599	.043	10.014	.000	196	.65
	Behavior	.328	.657	.047	6.925	.000	192	.51
	Attitudes/beliefs	.254	.515	.037	6.783	.000	189	.30

Table A 9 continues on next page.

Table A 9. Paired-Samples *T* Test of Perceived Impact, by Provider

Provider	Dimension	Mean Δ pre-post	Standard deviation	Standard error of mean	<i>t</i>	Signifi- cance	<i>n</i>	Effect size (Cohen's <i>d</i>)
WVDE Office of Instruction	Knowledge	.960	.748	.030	32.221	.000	630	1.48
	Behavior	.702	.735	.030	23.180	.000	588	.89
	Attitudes/beliefs	.423	.694	.028	14.942	.000	600	.64
WVDE Office of Institutional Education	Knowledge	.619	.744	.064	9.639	.000	134	.88
	Behavior	.537	.731	.066	8.086	.000	121	.54
	Attitudes/beliefs	.311	.722	.066	4.698	.000	119	.41
WVDE Office of School Improvement	Knowledge	.374	.627	.031	11.977	.000	404	.52
	Behavior	.289	.565	.029	10.058	.000	388	.31
	Attitudes/beliefs	.185	.501	.026	7.243	.000	383	.21
WVDE Office of Special Programs	Knowledge	.623	.671	.040	15.562	.000	281	.93
	Behavior	.588	.701	.043	13.708	.000	267	.74
	Attitudes/beliefs	.338	.619	.038	8.914	.000	266	.42
WVDE Office of Title I	Knowledge	.817	.821	.041	20.107	.000	409	1.02
	Behavior	.503	.728	.037	13.454	.000	380	.64
	Attitudes/beliefs	.343	.608	.031	11.149	.000	391	.41
WVDE Office of Title II, III, and System Support	Knowledge	1.171	.803	.125	9.333	.000	41	1.31
	Behavior	.775	.698	.110	7.027	.000	40	.60
	Attitudes/beliefs	.525	.716	.113	4.640	.000	40	.51



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